UPGRADING TO ADOBE® LIVECYCLE® ES4 FOR JBOSS® TURNKEY

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Chapter 1: About This Document

1.1 What this document contains

This document explains how to upgrade to Adobe® LiveCycle® Enterprise Suite 4 (ES4) from LiveCycle ES2, Adobe Digital Enterprise Platform (ADEP), or LiveCycle ES3 for Red Hat® JBoss® and MySQL using the turnkey method. The turnkey method automatically installs, configures, and upgrades the product and is the recommended installation option for rapid evaluation, development, and small production deployments.

Perform this type of upgrade to get LiveCycle ES4 system up and running rapidly for a small-scale production, demonstration, evaluation, development, or training purposes. The turnkey method installs and configures a default set of Adobe and third-party products that provide a functioning LiveCycle environment.

Ensure that you read Preparing for Upgrading to LiveCycle before you perform the tasks described in this document. Although this document includes the steps required for a turnkey upgrade, Preparing for Upgrading to LiveCycle helps you plan your upgrade.

1.2 Who should read this document?

This document is intended for users who are upgrading to LiveCycle ES4 from LiveCycle ES2, Adobe Digital Enterprise Platform (ADEP), or LiveCycle ES3 using turnkey deployment.

1.3 Conventions used in this document

This document uses the following naming conventions for common file paths.

Name	Default value	Description
[LiveCycle root]	C:\Adobe\Adobe LiveCycle ES4	The installation directory that is used for all LiveCycle modules. This directory contains subdirectories for Adobe® LiveCycle® Configuration Manager, SDK, and CRX repository.
[JBoss root]	C:\Adobe\Adobe LiveCycle ES4\jboss	The home directory of the application server that runs LiveCycle.
[Adobe_JAVA_HOME]	C:\Adobe\Adobe LiveCycle ES4\Java\jdk1.6.0_31	The home directory of the Java JDK installed by the LiveCycle turnkey.

1.4 Additional information

The resources in this table can help you learn about LiveCycle.

For information about	See
General information about LiveCycle and the modules	LiveCycle Overview
Other services and products that integrate with LiveCycle	LiveCycle Development Center
All documentation available for LiveCycle	LiveCycle documentation
Adobe LiveCycle ES4 Upgrade Checklist and Planning	Adobe LiveCycle ES4 Upgrade Checklist and Planning
Patch updates, technical notes, and additional information about this product version	Adobe® Enterprise Support

Chapter 2: Upgrading to LiveCycle ES4 (Turnkey)

This chapter describes how to upgrade to LiveCycle ES4 from LiveCycle ES2, ADEP, or LiveCycle ES3 by using the turnkey method. The turnkey installation option is most appropriate for rapid installations of evaluation, developer, and small production environments. If you installed a previous version of LiveCycle using non-turnkey method (manual configuration and deployment to JBoss or deployment to WebSphere or WebLogic), see the Upgrading to LiveCycle ES4 document for your application server.

Configuration Manager automatically performs most of the tasks required to upgrade a turnkey deployment to LiveCycle ES4 on a JBoss Application Server and MySQL database running on Windows only.

Note: *You can upgrade using the turnkey method only if you installed the previous version of LiveCycle using turnkey and solution components are deployed to the JBoss instance that was included as part of the turnkey installation.*

2.1 How the LiveCycle upgrade works

Upgrading to LiveCycle involves the following major tasks, many of which are automated when you use the turnkey method of installation and deployment:

1. Manually backing up the existing LiveCycle data.
2. Installing LiveCycle product files including new versions of the application server and database.
3. Configuring and deploying the LiveCycle EAR files.
4. Updating (patching) the services components that are part of LiveCycle.

The installation program and Configuration Manager together perform most of the tasks. You are prompted for input throughout the process, as described by the steps in this document.

Detailed outline of tasks performed in the turnkey upgrade process

If you originally installed a previous version of LiveCycle using the turnkey method, you can use the turnkey upgrade process to move to LiveCycle ES4. The turnkey installation and upgrade process performs the following tasks:

- Installs the LiveCycle product files
- Installs a preconfigured JBoss 5.1 application server (with Apache Tomcat servlet container embedded)
- Installs a preconfigured version of MySQL 5.1.30 database server.
- Starts Configuration Manager
- **(Upgrading on the same machine running your existing LiveCycle instance)** Stops the appropriate JBoss for Adobe LiveCycle service
- **(Upgrading on the same machine running your existing LiveCycle instance)** Migrates contents of Global Document Storage (GDS) from the default location of your previous instance of LiveCycle to LiveCycle ES4 default location.

  Note: *: If you changed the GDS location in the previous version of LiveCycle, you need to ensure that your LiveCycle ES4 GDS location should be the same. If not the same, you must copy the contents of your previous GDS location manually to the LiveCycle ES4 GDS location.*

- Configures and assembles the LiveCycle ES4 EAR files
- **(Upgrading on the same machine running your existing LiveCycle instance)** Migrates MySQL data from your previous instance of MySQL installed with LiveCycle to the new instance of MySQL installed with LiveCycle ES4.

  Important: *If your previous instance of LiveCycle and your new installation of LiveCycle ES4 are not on the same machine, you must manually import MySQL data into the MySQL instance installed by LiveCycle ES4 installer and copy the relevant directories onto the new computer you plan to use for LiveCycle ES4. See this article for detailed steps about Migrating previous instance of LiveCycle MySQL Database to new instance of LiveCycle ES4 MySQL Database and backing up LiveCycle data.*
- Starts the JBoss for Adobe LiveCycle ES4 service.
- Deploys LiveCycle EAR Files to JBoss
- Initializes the MySQL database
- Performs migration of critical data, before deploying components
- Deploys all the required components to JBoss
- Updates (patches) the existing components, preserving previous service configuration parameters, endpoints, watched folders, and so on
- Migrates essential data, including settings, and configuration data to LiveCycle
- Configures modules such as ECM Connectors (for example Connector for EMC Documentum, Connector for IBM FileNet, Connector for IBM Content Manager, or Connector for Microsoft SharePoint), PDF Generator, and Reader Extensions.

Chapter 3: System Prerequisites

Before you read system prerequisites section, ensure that you have read the Upgrade Checklist and Planning guide.

3.1 System requirements

Use the turnkey installation to install all the modules on a single system for development and evaluation. Ensure that your target computer has at least 4-GB RAM. For detailed system requirements, see the LiveCycle Supported Platform Combinations.

3.2 Additional prerequisites

3.2.1 Hardware

For any installation, these settings are recommended as the minimum:

- Disk space for installation: 3 GB (an additional 3 GB is required if you are using an ESD download as opposed to installing from a DVD)
- For correspondence management, an additional space of 500 MB is required.
- System temporary space during installation: 5.4 GB
- Memory for running LiveCycle: 4 GB
- Processor: Intel® Pentium® 4 or equivalent, 1.6 GHz, or higher processor

3.2.2 Operating System

The turnkey method is supported on Windows Server 2008 R1 and Windows Server 2008 R2 Standard and Enterprise Edition running on 64-bit architectures (required for production environment).

Note: *Windows Vista and Windows 7 are supported for LiveCycle evaluation and development. You must have administrator privileges on Windows to run the installer. If you run the installer using an account that does not have these privileges, you will be prompted for the credentials of an account with administrator privileges.*

3.2.3 Partial turnkey database preconfiguration

The Partial Turnkey option allows you to use your existing database with the preconfigured JBoss application server. The following database types are supported:

- MySQL 5.1.30
- Microsoft SQL Server 2005 SP2, 2008 R2
- Oracle 10g R2 and 11g

If you are using your existing database, configure the database as specified in the Creating the LiveCycle Database.

3.2.4 Application server

The turnkey method allows you to install, configure, and use JBoss 5.1 (which includes the Apache Tomcat servlet container). Once you have verified that your upgraded environment is working correctly, you can remove the old LiveCycle instance from your server.

3.3 Backing up LiveCycle data files

Before starting the upgrade process, you must back up all the files and directories associated with the previous deployment of LiveCycle, including the Java SDK, installation files, watched folder contents, temporary directory, and so on. Do not delete any of these items. The backup tasks involved are as follows:

- **(Upgrading from Livecyle ES2, ADEP, or LiveCycle ES3)** Put the LiveCycle server in maintenance mode before performing upgrade (See Running LiveCycle in maintenance mode section in LiveCycle Administration Help). Shutdown the LiveCycle Server and take cold backup.

The following LiveCycle data must be included in your back up:

GDS directory: This directory can reside either locally or on a shared network drive. Default location of the GDS directory is *[JBoss root]*/server/<profile_name>/svcnative/DocumentStorage. For information on how to find and backup the GDS directory, see Global Document Storage directory in LiveCycle Administration Help.

Database: Use the database backup utility to backup your data. For information on how to back up your LiveCycle database, see LiveCycle database in LiveCycle Administration Help.

LiveCycle EAR files: The EAR files are required to restore your system if you encounter upgrade issues.

Content Storage Root directory: If you have Adobe LiveCycle Content Services (deprecated) deployed on your current system, back up the lccs_data directory. This directory can reside either locally or on a shared network drive.

Reader Extension credential file: Backup the Reader Extension credential file if you have installed fresh operating system.

LiveCycle fonts: Back up all Adobe font directories that are specified in Configuration Manager (in Administartion Console, go to Settings > Core System > Configurations). Ensure that you back up the entire directory.

Customer installed fonts: If you installed additional fonts on your previous LiveCycle environment, back them up separately.

Watched folders: Backup the watched folders.

3.4 Before you start

3.4.1 General considerations

Before you install, read through the following information to ensure that your installation runs smoothly:

- To reduce the time of installation, install LiveCycle either by using a local copy of the installation files or directly from the DVD. The installation could fail when LiveCycle is installed from a network.
- Ensure that the installation media that you received is not damaged. If you copy the installer media to the hard disk of your computer, ensure that you copy the entire DVD contents on to the hard disk.

- If you downloaded the installer file set, verify its integrity using an MD5 check sum utility. Use this utility to check the MD5 check sum values with the value displayed on the Adobe download website. You can use a tool such as WinMD5.
- To avoid installation errors, do not copy the DVD install image to a directory path which exceeds the maximum path length limitation. Typically, long network paths cause this error. See http://msdn.microsoft.com/en-us/library/aa365247.aspx for more information.
- Download any patch updates for LiveCycle available from Adobe Enterprise Support.
- You may choose to disable any on-access virus scanning software for the duration of the installation, to improve the speed of installation on Windows.
- The turnkey installation creates the following Windows services, which, by default, are set to run automatically on startup:
  - JBoss for Adobe LiveCycle ES4
  - MySQL for Adobe LiveCycle ES4 (not applicable if you selected the Partial turnkey option)

    These services manage the application server and the database for the turnkey upgrade.

    You can start, stop, and pause these services by using the Windows Services Control Manager. To open the Windows Services Control Manager, go to **Control Panel** > **Administrative Tools** > **Services**. Using this tool, you can also configure the services to start when the computer starts or to require manual startup.
- By default, the turnkey installation places LiveCycle components in the `C:\Adobe\Adobe LiveCycle ES4\` directory.

  Important: *If you choose another directory, do not use the name* ***test*** *as your directory name (for example, C:\test) or the MySQL install process will fail.*
- By default, JBoss is installed to and runs from the *[JBoss root]* directory.

3.4.2 Disable the Windows UAC on Vista and Windows Server 2008 R1

1. To access the System Configuration Utility, go to **Start** > **Run** and then enter **MSCONFIG.**
2. Click the **Tools** tab and scroll down and select **Disable UAC.**
3. Click **Launch** to run the command in a new window.
4. When finished, close the command window and close the System Configuration window.
5. Restart your computer.

You must disable UAC when installing and configuring LiveCycle. To enable the UAC again, repeat the steps above and select **Enable UAC** before clicking Launch.

3.4.3 Disable the Windows UAC on Windows 7 and Windows Server 2008 R2

1. To access the System Configuration Utility, go to **Start** > **Run** and then enter **MSCONFIG.**
2. Click the **Tools** tab and scroll down and select **Change UAC Settings.**
3. Click **Launch** to run the command in a new window.
4. Adjust the slider to the **Never notify** level.
5. When finished, close the command window and close the System Configuration window.
6. Restart your computer.

To enable the UAC again, repeat the steps above and adjust the slider to a desired level before restarting your computer.

Important: *The Windows User Account Control (UAC) must remain disabled for PDF Generator to work properly. You can run the installation and configuration process by turning on the UAC with the Elevate without prompting option enabled. However, disable UAC to run PDF Generator.*

3.4.4 Reader Extensions credential

If you are installing Reader Extensions, ensure that you have a valid credential and password. If you do not have this information, contact your Adobe account representative. You can choose to skip importing the Reader Extensions credential when configuring and deploying LiveCycle and install it later using the Trust Store component in Administration Console.

3.4.5 Preconfigurations for PDF Generator

With native application file support, PDF Generator can convert files from native formats such as Microsoft Word to Adobe PDFs. Before you install PDF Generator, complete the tasks listed below.

Note: *PDF Generator must be installed on the server for Adobe LiveCycle Content Services (deprecated) to index Microsoft Office 2007 and 2010 documents (DOCX, XLSX, and PPTX files).*

3.4.5.1 Installing software for native file conversions

Before you install PDF Generator, install the software that supports the native file types for which, PDF conversion support is required. Also, manually activate licenses for the software using the same user account used to run the application server.

Refer and conform to the individual licensing agreement for each native application used for conversions with LiveCycle.

PDF Generator can be extended to convert these additional file types to PDF files by using the following applications:

- Microsoft Office 2007, 2010 (DOC, XLS, PPT, RTF, TXT, Microsoft Office open XML Formats)
- Microsoft Office Visio 2007, 2010 (VSD)
- Microsoft Publisher 2007, 2010 (PUB)
- Microsoft Project 2007, 2010 (MPP)
- Corel WordPerfect 12, X4 (WPD)
- Adobe® FrameMaker® 7.2, 8.0 (FM)
- Adobe® PageMaker® 7.0 (PMD, PM6, P65, PM)
- OpenOffice 3.3 (ODT, ODP, ODS, ODG, ODF, SXW, SXI, SXC, SXD, SXM)

Note: *LiveCycle supports only 32-bit editions of all the above mentioned software.*

Note: *Install OpenOffice 3.3 on the server to convert the documents created in version 3.3. On Linux platform, OpenOffice must be installed under /root user. If OpenOffice is installed for specific users, PDFG might not be able to convert OpenOffice documents.*

You do not need to install a native software application to convert the following native file formats:

- Web files (HTML)

- Print files (PS, PRN, EPS)
- Image files (JPEG, GIF, BMP, TIFF, PNG)

3.4.5.2 Installing Adobe Acrobat for PDF Generator

Install Adobe® Acrobat® XI Pro before running the LiveCycle installer. Ensure that you launch Acrobat at least once after installing it to avoid PDF Generator configuration issues. Dismiss all modal dialog boxes that appear on launching Acrobat.

The LiveCycle installer sets the `Acrobat_PATH` (case sensitive) environment variable automatically. You can also choose to set it manually, see "5.16.1 Setting environment variables" on page 34. Restart your application server after setting the environment variable.

To use AES 256 encryption in LiveCycle Encryption service to encrypt a PDF document, you must obtain and install the Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy files. For Oracle JDK installed with turnkey installation, download JCE files from Java SE Downloads. After downloading the policy file, replace the existing local_policy.jar and US_export_policy.jar files under *[Adobe_JAVA_HOME]*/jre/lib/security folder with the downloaded JAR files.

3.4.5.3 Enabling multi-threaded file conversions and multiuser support for PDF Generator

By default, PDF Generator can convert only one OpenOffice, Microsoft Word, or PowerPoint document at a time. If you enable multi-threaded conversions, PDF Generator can convert more than one of the documents concurrently by launching multiple instances of OpenOffice or PDFMaker.

Note: *Multi-threaded conversions are not supported for Microsoft Excel, Microsoft Visio, Microsoft Project, and Microsoft Publisher.*

Note: *Microsoft Excel and Microsoft Visio files are not converted simultaneously. During conversion, EXCEL.exe and VISIO.exe are watched in the task manager. The Visio file is processed only after processing on the Excel file is complete.*

Each instance of OpenOffice or PDFMaker is launched using a separate user account. Each user account that you add must be a valid user with administrative privileges on the LiveCycle server computer. On 64-bit Windows, disable Windows UAC. See "3.4.2 Disable the Windows UAC on Vista and Windows Server 2008 R1" on page 7 or "3.4.3 Disable the Windows UAC on Windows 7 and Windows Server 2008 R2" on page 7, as applicable.

When adding users for OpenOffice, Microsoft Word, or Microsoft PowerPoint dismiss the initial activation dialogs for all users. After your LiveCycle server is configured, add LiveCycle user accounts in Administration Console. See the "5.16.7 User accounts for multi-threaded file conversions" on page 36.

To enable multiuser support for native files and OpenOffice files on a Windows environment, add a minimum of three users with the following permissions.

Platform	User permissions
Windows 2008 Server	Users with administrative privileges

When you add users for PDF Generator native conversions, grant the user Logon as Service right. For more information, see "3.4.5.4 Granting the Logon as Service right" on page 10

3.4.5.4 Granting the Logon as Service right

If you are installing PDF Generator on any Windows operating system, grant the Logon as Service right to the user that installs LiveCycle.

1 Select **Start** > **Control Panel** > **Administrative Tools** > **Local Security Policy** > **Local Policies** > **User Rights Assignment**.

2 Double-click **Log on as a service** and click **Add User or Group**.

3 Type the user name for the Microsoft Administrator and click **OK**.

Chapter 4: Upgrading to, Configuring, and Deploying LiveCycle ES4

4.1 Installing LiveCycle

The default target installation directory for LiveCycle is `C:\Adobe\Adobe LiveCycle ES4`. After you install LiveCycle, you will run Configuration Manager to perform the upgrade to LiveCycle ES4.

4.1.1 Installing LiveCycle

1 Do one of the following:

- From the download site, download and extract the entire JBoss_DVD.zip file (the LiveCycle Electronic Software Distribution or ESD file) to your file system. Be sure to keep the directory hierarchy unchanged from the JBoss_DVD.zip file.
  - After extracting the ZIP file, launch the installer using one of the following methods:
  - (for 32-bit systems) double-click the **install.exe** file from the \server\Disk1\InstData\Windows\VM folder
  - (for 64-bit systems) double-click the **install.exe** file from the \server\Disk1\InstData\Windows_64\VM folder
- From the JBoss DVD, navigate to the \server folder. Launch the installer using one of the following methods:
  - (for 32-bit systems) double-click the **install.exe** file from the \server\Disk1\InstData\Windows\VM folder
  - (for 64-bit systems) double-click the **install.exe** file from the \server\Disk1\InstData\Windows_64\VM folder

  Note: *32-bit version is for development and evaluation purposes only.*

2 When prompted, select the language for installation, and then click **OK**.

3 On the Introduction screen, click **Next**.

4 On the Preparation for Upgrade screen, appears only if you have a previous version of LiveCycle installed on the target machine, perform one of the following operations:

- Select **Prepare to upgrade existing installation to Adobe LiveCycle ES4**, to upgrade to LiveCycle ES4. If the path displayed does not point to the location of the LiveCycle installation you would like to upgrade, click **Browse** to specify the path of the LiveCycle instance you would like to upgrade.
- Select **Install Adobe LiveCycle ES4**, to install a fresh instance of LiveCycle.

5 On the Choose Install Folder screen, accept the default directory as listed or click **Choose** and navigate to the directory where you want to install LiveCycle, and then click **Next**. This directory is referred to as *[LiveCycle root]*. The default path for installation is C:\Adobe\Adobe LiveCycle ES4.

Use **Restore Default Folder** button, to replace user added path to default installation path.

Note: *It is recommended that the installation directory path should not exceed 40 characters. And it must not contain international or special characters.*

6 On the Partial Turnkey Installation Options screen, You can include a preconfigured MySQL database server or select your own external database server to use with LiveCycle.

Note: *This screen appears only if you are performing an upgrade of partial turnkey installation of a previous LiveCycle version.*

7 On the Choose Installation Type screen, select the installation type and click **Next**:

- Select **Turnkey** under Typical as the installation type for a typical turnkey installation. Turnkey option installs LiveCycle, JBoss 5.1 application server , MySQL 5.1.30 database, and JDK 1.6.0_31.
- Select **Partial Turnkey** under Custom if you want to use a database other than the preconfigured MySQL database. LiveCycle, JBoss application server, and JDK 1.6.0_31 are installed by default.
- Select **Manual** if you do not want a turnkey installation but instead want a custom install. This option is selected by default if you already have a JBoss application server and MySQL database installed on your system with their Windows service names identical to those created by the LiveCycle installer.

Note: *This screen appears only if you have either chosen the* ***Install Adobe LiveCycle ES4*** *on the Preparation for Upgrade screen, or are installing LiveCycle on a computer that does not have a previous version of LiveCycle installed on it.*

Note: *For Manual installations, see the Upgrading to LiveCycleES4 for JBoss and Preparing to Upgrade LiveCycle ES4 guides before continuing.*

8 **(For MySQL provided with the installer only)** On MySQL Database selection screen, set the MySQL root administrator password and, optionally, type your MySQL port number. This screen appears only if you are performing a turnkey installation, or in a partial turnkey installation when you have selected the **Include the Turnkey MySQL** option.

Note: *If you select* ***Use my database*** *on Partial turnkey installation options screen this screen does not appear.*

Note: *MySQL does not allow special characters or spaces in the user name or password. Ensure that you record this password for future reference.*

- To verify that the port number is available for use, click **Test**. If the port is available, the installer displays a green check mark. If the port is in use, the installer displays a red X.
- If the port is in use, type a new port number and repeat the process until you find a port that is available. Clicking **Reset** populates the port box with the default port number *3306*.

  Note: *If you are upgrading on the same server machine that has your previous installation of LiveCycle, specify a different port than the one that your existing LiveCycle instance uses for MySQL.*

9 Read the JBoss Application Server License Agreement and, if you agree, select **I accept** and then click **Next**.

10 (**For MySQL provided with the installer only**) Read the MySQL License Agreement and, if you agree, select **I accept**, and then click **Next**. This screen will appear only when **Turnkey** or **Include the Turnkey MySQL** option is selected in case of Partial Turnkey.

11 Read the Adobe LiveCycle ES4 Server license agreement and, if you agree, select **I accept**, and then click **Next**.

12 Review the pre-installation summary, and then click **Install**. The installation program displays the progress of the installation. This process may take several minutes to complete.

13 Review the Release Notes and click **Next**.

14 On the Install Complete screen, choose one of these options:

- If you are upgrading Connectors for ECM, deselect **Start LiveCycle Configuration Manager**, click Done, and go to "4.2 Preparing Connectors for ECM for upgrade" on page 13.
- If no service pack updates are required, ensure that **Start LiveCycle Configuration Manager** is selected, and then click **Done**.

- If service pack updates are required, deselect the **Start LiveCycle Configuration Manager** option and click **Done** to exit the installer.

  Note: *If you deselect **Start LiveCycle Configuration Manager** and exit the installer, you can run Configuration Manager later by using the ConfigurationManager.bat file located in [LiveCycle root]\configurationManager\bin.*

4.2 Preparing Connectors for ECM for upgrade

If you are upgrading the Connector for EMC Documentum, Connector for IBM FileNet, or Connector for IBM Content Manager from a previous version of LiveCycle, you must configure an application server system after you install LiveCycle and before you start LiveCycle Configuration Manager to complete the upgrade process.

Note: *If you are not upgrading on a new computer, skip to step 2.*

1. **(For out-of-place upgrade to a new computer only)** Install the client for your ECM repository on the new computer that hosts the new application server.
2. Perform all settings related to Connectors for ECM (except for Administration Console settings) on the new application server prior to beginning the upgrade. See the "Configuring the Connector for ..." section of the Post-Deployment Activities chapter in this guide.
3. Navigate to the *[JBoss root]*/bin directory on your existing LiveCycle server and copy the adobe-component-ext.properties file to the corresponding directory on the target server.
4. Restart the application server.

You can now continue to run Configuration Manager to upgrade to LiveCycle ES4.

Important: *For Connector for EMC Documentum or Connector for IBM FileNet, the default repository must be set to LiveCycle Repository Provider or the upgrade deployment will fail. If you have configured the ECM repository provider as the default repository for either of these connectors, open the Administration Console and navigate to **Services** > **[connector type for your previous LiveCycle version]** > **Configuration Settings**. Select the **[LiveCycle Repository Provider for your previous LiveCycle verion]** option and click **Save.***

4.3 Install service packs

Before you complete the configuration using Configuration Manager, apply the latest service packs for LiveCycle. These updates are available from Adobe Enterprise Support.

4.4 Configuring LiveCycle ES4

Now that LiveCycle ES4 is installed, you are ready to begin the upgrade configurations. The Configuration Manager wizard performs the tasks required for upgrading.

4.4.1 Configuring LiveCycle

Note: *Press **F1** in Configuration Manager to view Help information for the screen you are viewing. You can view the configuration progress at any time by clicking View Progress Log.*

Note: *During configuration, if you must reset the data in Configuration Manager by using the Reset to Default option, ensure that you relaunch the Configuration Manager. Otherwise, you may encounter some missing configuration screens.*

1. If you are continuing from the LiveCycle installation, proceed to step 3; otherwise, navigate to the *[LiveCycle root]*\configurationManager\bin folder and run `ConfigurationManager.bat`.
2. When prompted, select the language to use, and then click **OK**.
3. If you are prompted to choose to use existing configuration data, click **OK**.
4. On the Welcome to Adobe LiveCycle ES4 screen, click **Next**.
5. On the Upgrade Task Selection screen, select the appropriate option for your existing version of LiveCycle, and then click **Next.**

4.4.2 Selecting modules

- On the Modules screen, ensure that the Adobe LiveCycle modules that you want to upgrade are selected. By default, all the modules that you select will be licensed with an Evaluation License. Click **Next**.

  Note: *Some modules have technical dependencies on other modules for proper configuration and functioning. Configuration Manager displays a dialog and does not allow to proceed further if mutually dependent modules are not selected. For example, you must select Adobe LiveCycle Forms, Adobe LiveCycle Output, and Content Repository modules if you are configuring Correspondence Management Solution.*

  Important: *Ensure that all modules configured in your previous LiveCycle instance are selected. You may choose to deploy additional modules.*

4.4.3 Selecting Tasks

- On the Task Selection screen, ensure that all the required tasks are selected, and then click **Next.**

  Note: *The **Configure Application Server** and **Validate Application Server Configuration** tasks are not available for selection for JBoss turnkey. The JBoss turnkey method does not support these tasks because the application server is already configured for LiveCycle.*

4.4.4 Reviewing the requirements

1. On the In-place vs Out-of-place Upgrade screen, review the information provided and ensure that you have performed all the appropriate prerequisites and then click **Next**.
2. On the Pre-upgrade Steps and Pre-upgrade Steps (Contd...) screens, review the requirements and perform all tasks relevant to your environment and then click **Next.**

4.4.5 Stopping JBoss

- On the Shutdown previous LiveCycle screen, click the button to stop the JBoss service for your previous LiveCycle version, and click **Next.**

4.4.6 Migrating Global Document Storage directory

- On the Migrate Global Document Storage (GDS) directory and other LiveCycle content screen, click **Migrate Contents** to copy the existing LiveCycle content to the new LiveCycle ES4 location. When complete, click **Next.**

  Note: *If the GDS location was changed in your previous LiveCycle version, migrate the contents of the GDS manually.*

4.4.7 Migrating Custom Data Sources

❖ On the Migrate Custom Data Sources screen, if you had created custom datasources after installing your previous instance of LiveCycle, select the **Import datasources** option, click **Start** to import them. When complete, click **Next**.

If you do not have custom data sources, leave the option deselected and click **Next.**

4.4.8 Configuring LiveCycle EAR, Fonts, and GDS

1 On the Configure LiveCycle ES4 (1 of 5) screen, click **Configure** and, when the EAR files have been configured, click **Next**. Depending on the number of modules that are included in the configuration, this process may take several minutes to complete.

2 On the Configure LiveCycle ES4 (2 of 5) screen, set the directories that LiveCycle will use to access fonts and then click **Next.**

*Click **Edit configuration** to change any values on this screen. This button is not available when the Configuration Manager is run for the first time, but is available on the second and subsequent runs of the Configuration Manager.*

- (Optional) To change the default location of the **Adobe server fonts directory**, type the path or browse to the directory. The default path is [LiveCycle root]/fonts
- To change the default location of the **Customer fonts directory,** click **Browse** or specify a new location for your customer fonts.

  ***Note:** Your right to use fonts provided by parties other than Adobe is governed by the license agreements provided to you by such parties with those fonts, and is not covered under your license to use Adobe software. Adobe recommends that you review and ensure that you are in compliance with all applicable non-Adobe license agreements before using non-Adobe fonts with Adobe software, particularly with respect to use of fonts in a server environment.*
- (Optional) To change the default location of the **System fonts directory**, type the path or browse to the directory.
- (Optional) To enable FIPS, ensure that Enable **FIPS** is selected. Select this option only if you require the Federal Information Processing Standards (FIPS) to be enforced.

3 On the Configure LiveCycle ES4 (3 of 5) screen, accept the default location for the **Location of temporary directory**, or enter the path or click **Browse** to specify the path. The default location is `[LiveCycle root]/temp`. Click **Next** to continue.

4 On the Configure LiveCycle (4 of 5) screen, accept the default location for the **Global document storage directory path**, or click **Browse** to specify the fully qualified path. If your previous LiveCycle version did not use the default GDS directory, for a successful upgrade you must specify a directory for LiveCycle ES4, and copy the contents of the previous GDS directory to this new location.

***Note:** If you migrated GDS contents to the LiveCycle ES4 installation in the step "4.4.6 Migrating Global Document Storage directory" on page 14, do not modify the prepopulated value of **Global document storage directory path**.*

5 On the Configure Persistent Document Storage (5 of 5) screen, select either **Use GDS** or **Use database**, and then click **Configure**.

- **Use GDS**: Use the file system based GDS for all persistent document storage. This option provides the best performance and a single location for GDS.
- **Use database**: Use the LiveCycle database for storing persistent documents and long-lived artifacts. However, the file-system based GDS is also required. Using the database simplifies backup and restore procedures.

Click **Next**.

4.4.9 Configuring Content Services

1 On the Content Services Configuration screen, specify location to store contents. The default path is *[LiveCycle root]\lccs_data*.

Note: *This location must be the content storage root directory from your previous installation of LiveCycle. If you want to specify a new location then you must copy the contents from content storage root directory configured in your previous LiveCycle installation to this new location before proceeding further.*

You may choose **Configure File Servers (CIFS and FTP)** to configure file servers, and **Advanced Settings** to configure settings, such as inbound e-mail server and disk usage. Click **Next**.

2 On the Content Services File Server Configuration screen, set the parameters that CIFS and FTP Server requires. This screen appears only if you select **Configure File Servers** option on Content Services Configuration screen.

- **FTP Server Port:** To enter the port number, ensure that the Enable FTP Server option is selected. The Port number that FTP server uses for communication. Default port number is 8021.
- **CIFS Server Name:** To enter the CIFS server name, ensure that the Enable CIFS option is selected. The Content Services repository will be accessible by the server name mentioned in CIFS Server Name box. For example, cifs-servername.
- **Choose the CIFS Server Implementation:** Choose Java (Socket Based) or Windows Native (DLL Based).

  If your CIFS Implementation type is Java (Socket Based), then enter the following details:

  - **Alternate IP Address:** IP Address of the CIFS server.
  - **Primary WINS Server IP Address:** The Windows Internet Name Service (WINS) server to dynamically map the IP address to the computer names. It is used to resolve the local domain. It is the IP address of the Primary WINS server. Its value can be found using the ipconfig/all command.
  - **Secondary WINS Server IP Address:** The IP address of the secondary WINS server. Its value can be found using ipconfig/all command.
  - **Broadcast IP Address:** The broadcast IP address which is used to resolve the local domain.

  If your CIFS Implementation type is Windows Native (DLL Based):

  - **System Path to copy CIFS dlls:** Provide a location to where Configuration Manager can copy CIFS dll files.

Click **Next**.

3 On the Content Services Advanced Settings Configuration screen, select required options. You can limit disk usage quota and provide settings for inbound email server on this screen. This screen appears only if you select **Advanced Settings** in Content Services Configuration screen.

- **Propagate Content Services events to LiveCycle**: Select if Content Services events like create, delete, update, check in and check-out events must be propagated to LiveCycle processes.
- **Enable Auditing in Content Services**: When selected, application or user interactions with Content Services repository can be recorded.
- **Enable Disk Usage Quota**: Specify, in megabytes, the disk space quota for a user in Content Services. If a user attempts to add more data than the quota specified, an error message is displayed.
- **Inbound email server settings**: Settings of the internal email server to which messages are directed. Further settings:
  - **Mail Server Domain**: The domain of the inbound email server.
  - **Mail Server Port**: The port that the email server listens to, for incoming connections. The defaults port number is 25.

- **Allowed Email Senders**: The domains of allowed email senders.
- **Blocked Email Senders**: The domains of blocked email senders.
- **Unknown User**

Click **Next**.

4 On the Content Services Module Configuration screen, select the AMPs to package in Content Services. You can package custom AMPs in Content Services by selecting **Do you want to package your own AMPs in Content Services?** Click **Configure** to configure Content Services module. When complete, click **Next**.

Important: *If you chose to package custom AMPs in your previous version of LiveCycle, then you must specify the AMPs again to re-package them in LiveCycle EAR.*

4.4.10 Configuring Acrobat for PDF Generator

1 **(PDF Generator only)** On the Configure Acrobat For LiveCycle PDF Generator screen, click **Configure** to run the configuration script. When complete, click **Next**.

2 On the Configure LiveCycle Summary screen, click **Next**.

4.4.11 Configuring the LiveCycle Database

Important: *Ensure that the old and current versions of MySQL are running before you perform these steps.*

Important: *If you have chosen the* ***Install Adobe LiveCycle ES4*** *option on the Preparation for Upgrade screen, or are installing LiveCycle ES4 on a computer that never had a previous version of LiveCycle installed on it, you must manually import your old LiveCycle database into LiveCycle ES4 database.*

1 On the Adobe LiveCycle ES4 Database screen, specify information about the database you are going to use with LiveCycle, and then click **Verify Connection** to test the connection. Click **Next**.

2 On the Previous LiveCycle Database screen, specify information about the LiveCycle database that you are upgrading from, and then click **Verify Connection** to test the connection. Click **Next**.

Note: *This screen appears only if you have chosen the* ***Prepare to upgrade existing installation to Adobe LiveCycle ES4*** *option on the Preparation for Upgrade screen.*

3 On the Upgrade MySQL Relational Database screen, click **Upgrade MySQL** to migrate the old LiveCycle data to the new MySQL database.

Note: *This screen appears only if you have chosen the* ***Prepare to upgrade existing installation to Adobe LiveCycle ES4*** *option on the Preparation for Upgrade screen.*

4.4.12 Configure CRX

In the **CRX Configuration** screen, specify the path to the repository and click **Configure** to create the required repository files at the specified location.

It configures the repository to bundle within the LiveCycle Core EAR file.

Click **Next** to continue.

Note: *A backup (adobe-jboss-core-ear.orig) for the original LiveCycle Core EAR file is taken in the [LiveCycle root]\deploy folder. You can restore the EAR file in case you want to run the set up again without the CRX repository.*

Note: *Once the packages are configured, you cannot remove them by re-running the Configuration Manager. For clean uninstallation of deployed packages, you need to uninstall and delete the packages using Package Manager.*

4.4.13 Configuring turnkey JBoss SSL

❖ On the Configure Turnkey JBoss SSL screen, add the information to configure the SSL certificate and click **Configure JBoss SSL**, when complete click **Next**.

You can skip this step by selecting the Skip Configuration and configure it later in LiveCycle Configuration Manager.

- **Certificate Alias:** The alternate unique name that is used to reference the certificate (for example, LiveCycleCert).
- **Keystore filename:** The name of the keystore that is assigned to store the keys and the certificate (for example, lces).

4.4.14 Install verification samples

❖ (**Adobe® LiveCycle® Forms Standard 11, Adobe® LiveCycle® Mobile Forms 11, Adobe® LiveCycle® Output 11, and PDF Generator only**) On the LiveCycle ES4 Installation Verification Sample (IVS) EAR files screen, you can install three service-specific sample applications. Select **Include IVS EARs in deployment set** and click **Next** to install these sample files.

`adobe-output-ivs-jboss.ear, adobe-mobileforms-ivs.ear,` and `adobe-forms-ivs-jboss.ear` appear only if you have selected respective modules on the Modules screen.

Note: *Do not deploy the IVS EAR files to a production environment.*

4.4.15 Undeploy LiveCycle EARs

❖ **(In-place upgrade only)** On the Undeploy LiveCycle EARs from the application server if doing in-place upgrade screen., review the information, perform the required task, and then click **Next**

4.4.16 Deploying LiveCycle EARs

❖ On the Deploy LiveCycle ES4 EAR files screen, select the EAR files you want to deploy to JBoss, click **Deploy** and when complete, click **Next**.

Note: *During EAR files Deployment to LiveCycle, certain errors may be displayed regarding EARs being unable to locate the correct table. You may ignore these errors.*

4.4.17 LiveCycle Database Initialization

❖ On the LiveCycle ES4 Database Initialization screen, verify the host and port information, and then click **Initialize**. The database initialization task creates tables in the database, adds default data to the tables, and creates basic roles in the database. When the initialization completes successfully, and then click **Next**.

Do not skip this step. Database initialization does not harm legacy data.

4.4.18 LiveCycle Server Information

❖ On the LiveCycle Server Information screen, type the administrator user ID and password from your previous version of LiveCycle, and click **Verify Server Connection**. When the validation is complete, click **Next**.

The server information that appears on this screen represents default values for the deployment. Verifying the server connection helps narrow troubleshooting in case failures occur in the deployment or validation. If the connection test passes but deployment or validation fails in the next few steps, connectivity issues can be eliminated from the troubleshooting process.

4.4.19 JNDI Information

- On the LiveCycle ES4 JNDI Information screen, specify the JNDI server host name and port number and click **Verify Connection.** When verified, click **Next.**

4.4.20 Performing Critical Tasks before Component Deployment

- On the Perform critical tasks before component deployment screen, click **Start** to perform the tasks required before components are deployed. When complete, click **Next.**

4.4.21 Session ID Migration Errors

- View and fix the errors that were encountered while migrating session IDs from you old instance of LiveCycle, and then click **Next.** It is important to fix these errors else you may encounter some failed workflow invocations post-upgrade.

4.4.22 Central Migration Bridge Service Deployment Configuration

- On Central Migration Bridge Service Deployment Configuration screen, select **Include Central Migration bridge service in deployment** if you are licensed to configure LiveCycle with Central Pro or Web Output Pak, and then click **Next.**

4.4.23 LiveCycle Components Deployment

1. On the LiveCycle ES4 Component Deployment screen, click **Deploy**. The components deployed at this time are Java archive files that plug into the LiveCycle service container for purposes of deploying, orchestrating, and executing services. When the deployment has completed successfully, click **Next**.
2. On the LiveCycle ES4 Component Deployment Validation screen, click **Validate**. Configuration Manager validates that the Java archive files are deployed to and running on the LiveCycle server. When the validation is completed successfully, click **Next**.

4.4.24 Migrating data essential to LiveCycle

- On the Migrate Data Essential to LiveCycle ES4 Operation screen, click **Start** to migrate the data from your previous LiveCycle environment. When complete, click **Next**.

  This step involves copying forms, form data, processes, preferences, file type settings, job options, security settings, watched folders, and email job sources (depending on the product you are upgrading), custom fonts, and documents in the GDS directory.

4.4.25 Configuring LiveCycle Components

- On the Configure LiveCycle ES4 Components screen, select the LiveCycle modules to configure, and then click **Next.** The screens that appear next depend on your selections on this screen.

Note: *If you are upgrading any Connectors for ECM module, do not select them on this screen. Only include them if you are licensing them for the first time in LiveCycle and proceed with the following steps as appropriate.*

4.4.25.1 Configure Connector for EMC Documentum

❖ On the Specify Client for EMC Documentum screen, do one of the following tasks:

- Deselect the **Configure Connector for EMC Documentum Content Server** option to manually configure EMC Documentum later, and then click **Next**.
- Leave the option selected, enter the appropriate version and directory path, and then click **Verify**. When complete, click **Next** and complete the tasks on the following screens:
  - On the Specify EMC Documentum Content Server Settings screen, enter the required values and then click **Next.**
  - On the Configure Connector for EMC Documentum screen, click **Configure Documentum Connector**. When complete, click **Next.**

4.4.25.2 Configure Connector for IBM Content Manager

❖ On the Specify Client for IBM Content Manager screen, do one of the following tasks:

- Deselect the **Configure Connector for IBM Content Manager** option to manually configure IBM Content Manager later, and then click **Next.**
- Leave the option selected, enter the appropriate directory path, and then click **Verify.** When complete, click **Next** and complete the tasks on the following screens:
  - On the Specify IBM Content Manager Server Settings screen, enter the required values and then click **Next.**
  - On the Configure Connector for IBM Content Manager screen, click **Configure IBM Content Manager Connector.** When complete, click **Next.**

4.4.25.3 Configure Connector for IBM FileNet

❖ On the Specify Client for IBM FileNet screen, do one of the following tasks:

- Deselect the **Configure Connector for IBM FileNet Content Manager** option to manually configure IBM FileNet later, and then click **Next.**
- Leave the option selected, enter the appropriate version and directory path, and then click **Verify**. When complete, click **Next** and complete the following screens:
  - On the Specify IBM FileNet Content Server Settings screen, enter the required values and then click **Next.**
  - On the Configure Connector for IBM FileNet Process Engine screen, enter the appropriate version (if enabled) and directory path, and then click **Verify.** When complete, click **Next**.
  - On the Specify IBM FileNet Process Engine Server Settings screen, enter the required values and then click **Next.**
  - On the Configure Connector for IBM FileNet screen, click **Configure FileNet Connector.** When complete, click **Next.**

4.4.25.4 Configure Connector for Microsoft SharePoint

❖ On the Configure Adobe LiveCycle 11 Connector for Microsoft SharePoint screen, do one of the following tasks:

- Deselect the **Configure Adobe LiveCycle ES4 Connector for Microsoft SharePoint** option to manually configure Microsoft Sharepoint later, and then click **Next.**
- Leave the **Configure Adobe LiveCycle ES4 Connector for Microsoft SharePoint** option selected. Enter the required values, and then click Configure SharePoint Connector. When complete, click **Next**.

4.4.25.5 Verifying Configuration for ECM Connectors

❖ On the Verify Configurations screen, do one of the following tasks:

- If you are configuring the connectors for the first time or have modified any of the configurations on the previous screens, leave the **Restart Application Server** option selected and click **Validate Configurations**. When successfully validated, click **Next**.

  Note: *The validation of IBM FIleNet may fail if there are special characters, such as hyphen (-), underscore (_), comma (,), or dot (.) in the directory name containing the IBM FileNet client.*

- If you wish to configure connectors later, deselect the **Restart Application Server** option and click **Validate Configurations**. When successfully validated, click **Next**.

4.4.25.6 Manually Configuring Connectors

Note: *This screen appears only when you select to configure ECM Connectors on the Configure LiveCycle Component screen but then skip configuring the ECM Connectors on the conenctor screens.*

Configuring LiveCycle Connectors

1 Create a file called adobe-component-ext.properties and place it in the application server's working directory.

2 Add an attribute that associates the ECM Java libraries with the ECM component. The format of the attribute is:
`com.adobe.livecycle.Connectorfor[ECM].ext=[Comma delimited list of Jar Files, Resource files and/or Directories]`

3 Start the application server.

4 When you finish running Configuration Manager and LiveCycle is deployed and running, specify the location of the EMC Documentum Content Server, IBM Content Manager DataStore, IBM FileNet Content Engine IP/Port and user credentials for connectors in the Administration Console.

4.4.25.7 Configuring PDF Generator

1 In the **Admin user credentials for native PDF conversions** screen box, enter the user name and password of a user with administrative privileges on the server machine. Click **Add user.**

Add at least one administrative user for Windows 2008 Server and Click **Next**.

Note: *On Windows 2008 Server, disable User Account Control (UAC) for the users you add. To disable UAC, click* ***Control Panel > User Accounts > Turn User Account Control on or off*** *and deselect* ***Use User Account Control (UAC) to help protect your computer****. Click* ***OK****. Your changes become effective when the system is restarted.*

Important: *Ensure that you disable UAC for the users you add. See "3.4.2 Disable the Windows UAC on Vista and Windows Server 2008 R1" on page 7 or "3.4.3 Disable the Windows UAC on Windows 7 and Windows Server 2008 R2" on page 7, as applicable.*

2 In the Document Services PDF Generator System Readiness Test screen, click **Start** to validate if the system has been configured correctly for PDF Generator. Review the System Readiness Tool Report and click **Next**.

4.4.25.8 Configuring Reader Extensions Credential

❖ On the Reader Extensions Credential Configuration screen, specify the details that are associated with the Reader Extensions credential that activates the module services.

Note: *You can skip this step at this time by selecting* ***Configure later using LiveCycle ES4 Administration Console****. You can configure the Reader Extensions credential by using Administration Console after you complete the deployment. (After logging in to Administration Console, click* ***Home*** *>* ***Settings*** *>* ***Trust Store Management*** *>* ***Local Credentials****.)*

Click **Configure** and then click **Next**.

4.4.26 Restarting Server

❖ Restart the JBoss application server as specified on the Server Restart Required screen. This is necessary as some configurations are applied only after the server is restarted. Click **Next**.

4.4.27 Task summary

Review the Configuration Manager task summary list and select **Next Steps** to launch an html page containing information about LiveCycle user and administrative interfaces. Click **Finish**.

4.5 Next steps

If you used Configuration Manager to configure and deploy LiveCycle, you can now complete the post-deployment tasks. (See "Post-Deployment Activities" on page 23.)

Chapter 5: Post-Deployment Activities

Perform the post-deployment tasks to get started using LiveCycle modules and services after they are installed, configured, and deployed to your application server.

As part of upgrade preparation, put the previous LiveCycle server in maintenance mode before starting the upgrade process. Hence, we must disable the maintenance mode of the upgraded LiveCycle Server before performing any other post-deployment tasks

5.1 Check whether LiveCycle is running in maintenance mode

In a web browser, enter:

```
http://[hostname]:[port]/dsc/servlet/DSCStartupServlet?maintenanceMode=isPaused&user=[administrator username]&password=[password]
```

The status is displayed in the browser window. A status of "true" indicates that the server is running in maintenance mode, and "false" indicates that the server is not in maintenance mode.

Note: *Returns "true" only if you had put the LiveCycle system in maintenance mode before upgrade.*

5.2 Turn off maintenance mode

Note: *Applicable only if you had put the previous LiveCycle system in maintenance mode before upgrade.*

In a web browser, enter:

```
http://[hostname]:[port]/dsc/servlet/DSCStartupServlet?maintenanceMode=resume&user=[administrator username]&password=[password]
```

A "now running" message is displayed in the browser window.

See Running LiveCycle in maintenance mode section in LiveCycle Administration Help for more information about maintenance mode.

5.3 Change default password

LiveCycle creates one or more default users during the installation. The password for these users is in the product documentation and is publicly available. You must change this default password, depending on your security requirements.

The LiveCycle administrator user password is set to “password” by default. You must change it in Administration Console > Settings > User Management. See “5.9 Accessing Administration Console” on page 27 for instructions about logging in to Administration Console.

5.4 Restarting the JBoss services

After completing the LiveCycle installation, restart the JBoss service to ensure that it is in a clean running state. After an install, the JBoss service will be in a high-memory-use initialization state.

Note: *When you upgrade the LiveCycle Server or deploy a Service pack, ensure that you delete the [Jboss_root]\server\<server name>\work and [Jboss_root]\server\<server name>\tmp folders before restarting the application server.*

5.5 Disabling status pages for JBoss

Due to a possible information disclosure issue, remove access to the JBoss status page by following these steps for your version of the application server.

1 **(JBoss 5.1 only)** Locate *[JBoss root]*/server/lc_turnkey/deploy/ROOT.war/WEB-INF, and open the web.xml file in an editor.

2 Comment out the `servlet` and `servlet-mapping` tags as follows:

```
<!-- <servlet>
    <servlet-name>Status Servlet</servlet-name>
    <servlet-class>org.jboss.web.tomcat.service.StatusServlet
    </servlet-class>
</servlet>
<servlet-mapping>
    <servlet-name>Status Servlet</servlet-name>
    <url-pattern>/status</url-pattern>
</servlet-mapping> -->
```

3 Save and close the file.

5.6 Setting the correct date, time, and time zone

Setting the correct date, time, and time zone on all servers connected to your LiveCycle environment will ensure that time-dependent modules, such as Adobe® LiveCycle® Digital Signatures 11 and Reader Extensions, will function correctly. For example, if a signature appears to have been created in the future, it will not validate.

Servers that require synchronization are database servers, LDAP servers, HTTP servers, and J2EE servers.

5.7 Manually enabling SSL for JBoss

During Turnkey installation, the JBoss application server is set up with Secure Sockets Layer (SSL) disabled by default. Enable SSL for JBoss if you want to use Adobe® LiveCycle® Rights Management 11 with Adobe Acrobat for securing documents. Enabling SSL requires a signed certificate issued by a trusted certificate authority (CA) like VeriSign. However, you can also generate and use a self-signed certificate to enable SSL.

The following broad tasks are involved in enabling SSL for JBoss on a Turnkey installation:

1 Create a keystore using the keytool utility that ships with the Java SDK.

2 Generate the certificate or use a certificate issued by a CA.

3 Copy the keystore and the certificate files to the JBoss root configuration folder—*[JBoss root]*\server\lc_turnkey\conf.

4 Import the certificate into *[Adobe_JAVA_HOME]*\lib\security\cacerts.

5 Update the JBoss server.xml file to uncomment the SSL configuration settings and specify reference attributes for the certificate.

6 Restart the JBoss server to apply your changes.

5.7.1 Enable SSL for JBoss

You can configure SSL for JBoss using Configuration Manager. If you skipped this option, manually configure SSL using the instructions given below:

X.500 distinguished names are used as identifiers when you generate a keystore and a certificate. The keytool command that you use to generate a certificate supports the following subparts for the `–dname` option:

CN: The complete hostname of the machine for which you're creating the certificate. For example, "machine.adobe.com".

OU: The name of a small organizational unit, such as a department or a division. For example, "Purchase".

O: The name of the organization. For example, "Adobe Systems".

L: The name of a locality or city. For example, "San Jose".

S: The name of a state or province. For example, "California".

C: A two letter country code. For example, "US".

5.7.1.1 Enable SSL for JBoss on a Turnkey installation

1 Navigate to *[Adobe_JAVA_HOME]/*bin and type the following command to create the keystore:

`keytool -genkey -dname "CN=`**Host Name**`, OU=`**Group Name**`, O=`**Company Name**`, L=`**City Name**`, S=`**State**`, C=`**Country Code**`" -alias` **"LC Cert"** `–keyalg rsa -keypass` **key_password** `-keystore` **keystorename.**`keystore`

Replace *[Adobe_JAVA_HOME]* with the name of the directory where the JDK is installed, and replace the text in bold with values that correspond to your environment. The Host Name is the fully qualified domain name of the application server.

2 Enter the *keystore_password* when prompted for a password.

Note: *The keystore_password entered at this step may be the same password (key_password) that you entered in step 1, or may be different.*

3 Copy the *keystorename*.keystore file to the *[JBoss root]*\server\lc_turnkey\conf directory by typing the following command:

```
copy keystorename.keystore [JBoss root]/server/lc_turnkey/conf
```

4 Export the certificate file by typing the following command:

```
keytool -export -alias "LC Cert" -file LC_cert.cer -keystore [JBoss
root]\server\lc_turnkey\conf\keystorename.keystore
```

5 Enter the *keystore_password* when prompted for a password.

6 Copy the LC_cert.cer file to the *[JBoss root] conf directory* by typing the following command:

```
copy LC_cert.cer [JBoss root]\server\lc_turnkey\conf
```

7 View the contents of the certificate by typing the following command:

```
keytool -printcert -v -file [JBoss root]\server\lc_turnkey\conf\LC_cert.cer
```

8 If necessary, provide write access to the `cacerts` file in *[Adobe_JAVA_HOME]\lib\security*. Right-click the `cacerts` file, select Properties, and then deselect the Read-only attribute.

9 Import the certificate by typing the following command:

```
keytool -import -alias "LC Cert" -file LC_cert.cer -keystore
[Adobe_JAVA_HOME]\jre\lib\security\cacerts
```

10 Type `changeit` as the password. `changeit` is the default password for a Java installation.

11 When prompted if you `Trust this certificate? [no]:`, type `yes`. The confirmation "Certificate was added to keystore" is displayed.

12 In a text editor, open the file

(JBoss 5.1 only) *`[JBoss root]\server\lc_turnkey\deploy\jbossweb.sar\server.xml`*.

13 Uncomment the following lines in the *server.xml* file:

```
<!-- SSL/TLS Connector configuration using the admin devl guide keystore <Connector
port="8443" address="${jboss.bind.address}" maxThreads="100" strategy="ms"
maxHttpHeaderSize="8192" emptySessionPath="true" scheme="https" secure="true"
clientAuth="false" keystoreFile="${jboss.server.home.dir}/conf/keystoreFile.keystore"
keystorePass="keystorePass" sslProtocol = "TLS" />

-->
```

14 For the *keystoreFile* attribute in *server.xml*, specify the path of the keystore file you created. Specify *keystore_password* for the *keystorePass* attribute in *server.xml*.

15 Save the *server.xml* file.

16 Restart the application server:

- From the **Windows Control Panel**, click **Administrative Tools**, and then click **Services**.
- Select **JBoss for Adobe LiveCycle ES4.**
- Select **Action > Stop.**
- Wait for the status of the service to appear as stopped.
- Select **Action > Start.**

5.8 Upgrading to Workbench

Once you have completed your LiveCycle server upgrade and verified that it is working properly, install the new version of Workbench in order to continue creating and modifying your LiveCycle applications. See Installing Your Development Environment.

5.9 Accessing Administration Console

Administration Console is the web-based portal for accessing various configuration pages, where you set run-time properties that control the way LiveCycle operates. When you log in to Administration Console, you can access User Management, watched folder, and email client configuration, as well as administrative configuration options for other services. Administration Console also provides access to Applications and Services, which administrators use for managing archives and deploying services to a production environment.

The default user name and password for logging in to Administration Console is *administrator* and *password*. After you log in the first time, you can access User Management and change the password of the LiveCycle administrator account. (See "5.10.8 Accessing User Management" on page 29.)

Use the same administrator account and password configured on your previous LiveCycle system.

Before you access Administration Console, LiveCycle must be deployed and running on your application server.

For information about using the administration web pages, see *Administration Console Help* (available from the Help menu of the Administration Console home page).

1 Open a web browser and enter this URL:

   http://localhost:8080/adminui (local deployment using the default port)

2 Log in using the default user name and password:

   User name: *administrator*

   Password: *password*

3 Click **Log in**.

4 Click **Services** to access the services' pages, and click **Settings** to access the Core System Settings, User Management, and Trust Store Management pages.

5.10 Accessing LiveCycle applications

After LiveCycle is deployed, you can access the web applications that are associated with the following modules:

- Adobe® LiveCycle® Reader Extensions 11
- Adobe® LiveCycle® Workspace 11

  Note: *The Flex Worksapce is deprecated for AEM forms. It is available for the LiveCycle ES4 release.*

- Content Services (deprecated)
- Adobe® LiveCycle® PDF Generator 11
- Adobe® LiveCycle® Rights Management 11

After accessing the web applications by using the default administrator permissions to ensure that they are accessible, you can create additional users and roles so that others can log in and use the applications. (See Administration Help.)

5.10.1 Access the Reader Extensions web application

Note: *You must apply a Reader Extensions credential and apply the user roles for a new user. (See "Configuring credentials for use with Reader Extensions" in LiveCycle Administration Help.)*

1 Open a web browser and enter this URL:

```
http://localhost:8080/ReaderExtensions
```

2 Log in using the user name and password for LiveCycle.

Note: *You must have administrator or superuser privileges to log in. To allow other users to access the Reader Extensions web application, you must create the users in User Management and grant them the Reader Extensions Web Application role.*

5.10.2 Access Workspace

1 Open a web browser and enter this URL:

```
http://localhost:8080/workspace
```

2 Log in using the user name and password for LiveCycle.

Note: *The Flex Worksapce is deprecated for AEM forms. It is available for the LiveCycle ES4 release.*

5.10.3 Access HTML Workspace

1 Open a web browser and enter this URL:

```
http://localhost:8080/lc/ws
```

2 Log in using the user name and password for LiveCycle.

5.10.4 Access Forms Manager

1 Open a web browser and enter this URL:

```
http://localhost:8080/lc/fm
```

2 Log in using the user name and password for LiveCycle.

5.10.5 Access PDF Generator Web Application

1 Open a web browser and enter this URL:

```
http://localhost:8080/pdfgui
```

2 Log in using the user name and password for LiveCycle.

5.10.6 Access the Content Services web application

Note: *You must apply the Contentspace Administrator or Contentspace User roles for a new user to login to this web application. To do this, you must create the users in User Management and grant them the appropriate role.*

1 Open a web browser and enter this URL:

```
http://localhost:8080/contentspace
```

2 Log in using the user name and password for LiveCycle.

5.10.7 Access Rights Management

You must create a user with the Rights Management End User role in User Management and log in to the Rights Management administrator or end-user applications by using the login information that is associated with that user.

Note: *The default administrator user cannot access the Rights Management end-user web application but you can add the appropriate role to its profile. You can create a new user or modify an existing user through Administration Console.*

Access the Rights Management end-user web application

❖ Open a web browser and enter this URL:

```
http://localhost:8080/edc
```

Access the Rights Management administration web application

1 Open a web browser and enter this URL:

```
http://localhost:8080/adminui
```

2 Click **Services** > **LiveCycle Rights Management 11**.

For information about setting up users and roles, see Administration Help.

Assign the Rights Management End User role

1 Log in to Administration Console.

2 Click **Settings** > **User Management** > **Users and Groups**.

3 In the **Find** box, type `all` and, in the **In** list, select **Groups**.

4 Click **Find** and, for the required domains, click **All Principals** in the list that appears.

5 Click the **Role Assignments** tab and click **Find Roles**.

6 In the list of roles, select the check box next to **Rights Management End User**.

7 Click **OK** and then click **Save**.

5.10.8 Accessing User Management

By using User Management, administrators can maintain a database of all users and groups, synchronized with one or more third-party user directories. User Management provides authentication, authorization, and user management for LiveCycle modules, including Reader Extensions, Workspace, Rights Management, Adobe® LiveCycle® Process Management 11, Adobe® LiveCycle® Forms Standard 11, PDF Generator, and Content Services.

1 Log in to Administration Console.

2 On the home page, click **Settings** > **User Management**.

Note: *For information about configuring users with User Management, click* ***User Management Help*** *in the upper-right corner of the User Management page.*

Note: *The Flex Worksapce is deprecated for AEM forms. It is available for the LiveCycle ES4 release.*

5.10.9 Access Correspondence Management Solution template

You can verify the Correspondence Management Solution deployment by visiting `http://localhost:8080/lc/cm` and logging in using LiveCycle administrator credentials. Solution template is a reference implementation of Correspondence Management Solution.

Note: *In a non-turnkey deployment, if you encounter an error while accessing the solution template, you must integrate LiveCycle with Correspondence Management Solution. For more information, see the* ***Configure Publish nodes to Integrate with LiveCycle*** *section of this document.*

5.11 Encrypting the plaintext password

To learn how to encrypt the plaintext password in the data source configuration, go to: http://wiki.jboss.org and search for *EncryptingDataSourcePasswords*.

5.12 Managing the MySQL database

The turnkey installation and configuration supports the transaction-safe storage engine (InnoDB) in MySQL. This means that all LiveCycle must operate in the same storage engine and have consistent version support. (See MySQL InnoDB Storage Engine.)

5.13 Configuring LiveCycle to access LDAP

If you did not previously configure Lightweight Directory Access Protocol (LDAP), you can use the following procedure as a guideline when configuring User Management to support authentication using LDAP.

Note: *Skip these steps if you configured LDAP for previous LiveCycle products. LDAP configurations are migrated during the upgrade process.*

1 Open a web browser, navigate to http://*localhost*:8080/adminui, and log in. (See "5.10 Accessing LiveCycle applications" on page 27.)

2 Click **Settings** > **User Management** > **Domain Management**, and click **New Enterprise Domain**.

3 In the **ID** box, type a unique identifier for the domain.

4 In the **Name** box, type a descriptive name for the domain.

5 Click **Add Authentication** and, in the **Authentication Provider** list, select **LDAP**.

6 Click **OK** and, on the page that appears, click **Add Directory**.

7 In the **Profile Name** box, type a name, and then click **Next**.

8 Specify values in the **Server**, **Port**, **SSL**, and **Binding** boxes, as required.

9 Under **Populate Page With**, select a directory settings option (for example, select **Default Sun ONE values**), and then click **Next.**

10 Configure **User Settings** as required, and then click **Next.**

11 Configure **Group Settings** as required, and then click either **Test** or **Finish**.

12 (Optional) Test your configuration:

- Click **Test**.
- In the Test Directory pane, in the **Find** box, enter an object name and, in the **using** box, select the object's type, such as **Login ID**.
- Click **Test**. If successful, your object's details are displayed. You can then click **Back**.

13 Click **Finish** to exit the Add Directory page, and then click **OK** again.

5.14 Configure Correspondence Management Solution

Perform the following tasks to configure Correspondence Management Solution.

5.14.1 Configure the Author instance

The Author instance is embedded within the LiveCycle server. This implies that you do not need to make any configuration updates to the Author instance. The instance inherits all the configuration settings from the LiveCycle instance.

5.14.2 Configure the Publish instance

You must run separate author and publish instances for Correspondence Management Solution. However, you can configure the two instances on the same or on different machines.

Note: *Before configuring the publish instance, ensure that your author instance is configured and deployed. You can verify by successfully logging in to the solution template for Correspondence management Solution. See "5.10.9 Access Correspondence Management Solution template" on page 29for more information.*

1. Create a new appserver profile for the publish instance on the same or on a different machine.
2. On the author instance, navigate to the [*LiveCycle root*]/configurationManager/export/ directory.
3. Copy the adobe-livecycle-cq-publish.ear file and deploy it to the appserver profile created in step 1.
4. Copy the [*LiveCycle root*]/configurationManager/export/crx-repository directory to the file server for the publish instance.
5. Start the publish server with `-Dcom.adobe.livecycle.crx.home=<location for crx-repository>` parameter, where `<location for crx-repository>` is the location where you copied the crx-repository directory for the publish instance.

Note: *If author and publish instances are on the same machine, ensure that you start the publish instance using a different port.*

Now that the publish instance is up and running, you need to configure the two instances to communicate with each other.

Important: *If you are setting up clustering on your Correspondence Management solution, you need to ensure that there are no spaces in your CRX repository path.*

5.14.3 Communicating between the Author and Publish instances

You need to perform certain configuration changes to enable two-way communication between the Author and Publish instances.

5.14.3.1 Define Publish instance URL

1. Go to http://<*authorHost*>:<*authorPort*>/lc/etc/replication/agents.author/publish.html.
2. Click **Edit**. The Agent Settings dialog opens.
3. Click the **Transport** tab and specify the URL to the publish server in the URI field.

   http://<*publishHost*>:<*publishPort*>/lc/bin/receive?sling:authRequestLogin=1

Note: *If there are multiple publish instances managed by a Load Balancer, specify the URL to the load balancer in the URI field.*

4 Click **OK**.

Note: *For author clusters, these steps need to be performed on one author instance (preferably a master instance).*

5.14.3.2 Define publish instance URL for ActivationManagerImpl

1 Go to http://<*authorHost*>:<*authorPort*>/lc/system/console/configMgr.

2 Find and click the Edit icon next to the `com.adobe.livecycle.content.activate.impl.ActivationManagerImpl.name` setting.

3 In the ActivationManager Publish URL field, specify the URL for the corresponding publish instance.

4 Click **Save**.

5.14.3.3 Configure reverse replication queue

1 Go to http://<*authorHost*>:<*authorPort*>/lc/etc/replication/agents.author/publish_reverse.html.

2 Click **Edit**. The Agent Settings dialog opens.

3 Click the **Transport** tab and specify the URL to the corresponding publish server in the URI field.

Note: *If there are multiple publish instances managed by a Load Balancer, specify the URL to the load balancer in the URI field.*

4 Click **OK**.

5.14.3.4 Define author instance URL

1 Go to http://<*publishHost*>:<*publishPort*>/lc/system/console/configMgr.

2 Find and click the Edit icon next to the `com.adobe.livecycle.content.activate.impl.VersionRestoreManagerImpl.name` setting.

3 In the VersionRestoreManager Author URL field, specify the URL for the corresponding author instance.

Note: *If there are multiple author instances managed by a Load Balancer, specify the URL to the load balancer in the VersionRestoreManager Author URL field.*

4 Click **Save**.

5.14.4 Install sample users and assets

You can install sample users with predefined user permissions to further explore the solution template, which you can customize to build your own solution.

1 Go to http://<*authorHost*>:<*authorPort*>/lc/crx/explorer/index.jsp.

2 Log in using LiveCycle administrator credentials and click **Package Manager**.

3 In **Package Manager**, upload the samples-correspondencemanagement-pkg-<*version*>.zip package from <*LC_HOME*>/deploy/crx.

4 Click **Install** once the package uploads successfully.

5 Click **Install** on the confirmation dialog to install the sample users and assets.

For more information about the sample users and guidelines to implement a solution using the solution template, see Correspondence Management Solution Guide.

Note: *For author clusters, these steps need to be performed on one author instance (preferably a master instance).*

5.14.5 Configure IPv6 implementation

Note: *Perform these steps only if Correspondence Management Solution is running on a machine that uses an IPv6 address.*

To map the IPv6 address to a hostname on the server and client machines:

1 Navigate to the C:\Windows\System32\drivers\etc directory.

2 Open the `hosts` file in a text editor.

3 Add a mapping for the IPv6 address to a host name. For example:

```
2001:1890:110b:712b:d1d:9c99:37ef:7281 <ipv6_hostname>
```

4 Save and close the file.

Ensure that you use the mapped host name instead of the IPv6 address to access Correspondence Management Solution.

5.14.6 Install Japanese fonts for Adobe Reader

If your Correspondence Management assets use Japanese fonts, you must install the Japanese Language Support Package for Adobe Reader. Otherwise, your letters and forms will not render and function properly. For installing language packs, visit the downloads page for Adobe Reader.

5.15 Configuring the HTML digital signature feature

To use the HTML digital signature feature of Forms, complete the following procedure.

1 Manually deploy the *[LiveCycle root]*/deploy/adobe-forms-ds.ear file to your application server.

2 Log in to Administration Console and click **Services** > **Forms**.

3 Select **HTML Digital Signature Enabled** and then click **Save**.

5.16 Configuring PDF Generator

If you installed PDF Generator as part of your LiveCycle solution, complete the following tasks:

- "5.16.1 Setting environment variables" on page 34
- "5.16.2 Configuring the application server to use an HTTP proxy server" on page 34
- "5.16.3 Setting the Adobe PDF Printer as the default printer" on page 35
- "5.16.4 Configuring Acrobat" on page 35
- "5.16.5 Installing East Asian characters in Windows Server 2003" on page 36
- "5.16.6 PDF Generator watched folder performance parameters" on page 36
- "5.16.7 User accounts for multi-threaded file conversions" on page 36
- "5.16.8 Adding fonts to PDF Generator" on page 37

- "5.16.9 Configuring HTML to PDF conversions" on page 38
- "5.16.10 Modifying Microsoft Visio 2007 default macro settings" on page 39
- "5.16.11 Installing the PDF Generator Network Printer client" on page 39

5.16.1 Setting environment variables

If you installed PDF Generator and configured it to convert files to PDF, for some file formats, you must manually set an environment variable that contains the absolute path of the executable that is used to start the corresponding application. This table lists the native applications for which PDF Generator requires you to set up environment variables.

Application	Environment variable	Example
Adobe Acrobat XI	`Acrobat_PATH`	`C:\Program Files (x86)Adobe\Acrobat 11.0\Acrobat\Acrobat.exe`
Adobe FrameMaker®	`FrameMaker_PATH`	`C:\Program Files\Adobe\FrameMaker8.0\FrameMaker.exe`
Notepad	`Notepad_PATH`	`C:\WINDOWS\Notepad.exe`
OpenOffice.org	`OpenOffice_PATH`	`C:\Program Files\OpenOffice.org 3.3`
Adobe PageMaker®	`PageMaker_PATH`	`C:\Program Files\Adobe\PageMaker 7.0\PageMaker.exe`
WordPerfect	`WordPerfect_PATH`	`C:\Program Files\WordPerfect Office 12\Programs\wpwin12.exe`

Note: *The `OpenOffice_PATH` environment variable is set to the installation folder instead of the path to the executable.*

You do not need to set up the paths for Microsoft Office applications such as Word, PowerPoint, Excel, Visio, and Project, or for AutoCAD. The Generate PDF service starts these applications automatically if they are installed on the server.

5.16.2 Configuring the application server to use an HTTP proxy server

If the computer that LiveCycle is running on uses proxy settings to access external websites, the application server should be started with the following values set as Java Virtual Machine (JVM™) arguments:

```
-Dhttp.proxyHost=[server host]
-Dhttp.proxyPort=[server port]
```

Follow the procedure listed below to start your application server with HTTP proxy host settings.

5.16.2.1 Add the setting to JBoss

1. Ensure that the JBoss Application Server is stopped.
2. From command line, edit the run.conf.bat or run.bat script in the *[JBoss root]*/bin/ directory.
3. Add the following text to the script file:

```
Set JAVA_OPTS=%JAVA_OPTS%
-Dhttp.proxyHost=[server host]
-Dhttp.proxyPort=[server port]
```

4. Save and close the file.

5.16.3 Setting the Adobe PDF Printer as the default printer

Set the Adobe PDF Printer to be the default printer on the server. If the Adobe PDF Printer is not set as the default, PDF Generator cannot convert files successfully.

1 Select **Start** > **Printers and Faxes**.

2 In the Printers and Faxes window, right-click **Adobe PDF** and select **Set as Default Printer**.

5.16.4 Configuring Acrobat

This procedure can be completed after you run Configuration Manager and deploy LiveCycle to the application server.

1 If an earlier version (10.0 or earlier) of Acrobat is installed, uninstall it by using Add or Remove Programs in the Windows Control Panel.

2 Do one of the following:

- If you are using the media, insert the Acrobat Pro CD.
- If you are using the ESD downloads, download Acrobat from your ESD location.

3 Install Acrobat XI Pro by running the AutoPlay.exe file.

4 Navigate to the additional\scripts folder on the LiveCycle installation media.

5 Run the following batch file:

```
Acrobat_for_PDFG_Configuration.bat [LiveCycle root]/pdfg_config
```

6 Open Acrobat and select **Help** > **Check for updates** > **Preferences**.

7 Deselect **Automatically check for Adobe updates**.

5.16.4.1 Validate the Acrobat installation

1 Navigate to a PDF file on your system and double-click it to open it in Acrobat. If the PDF file opens successfully, Acrobat is installed correctly.

2 If the PDF file does not open correctly, uninstall Acrobat and reinstall it.

Note: *Ensure that you dismiss all the Acrobat dialog boxes that are displayed after the Acrobat installation is completed and disable the automatic updates for Acrobat.*

Set the `Acrobat_PATH` environment variable to point to Acrobat.exe (such as C:\Program Files\Adobe\Acrobat 11.0\Acrobat\Acrobat.exe).

5.16.4.2 Configure native application support

1 Install and validate Acrobat as described in the previous procedure.

2 Set Adobe PDF printer as the default printer.

5.16.4.3 Changing File Block Settings

Change Microsoft Office trust center settings to enable PDFG to convert older versions of Microsoft office documents.

1 Click the **File tab** in any Office 2010 application. Under **Help**, click **Options**; the Options dialog box appears

2 Click **Trust Center**, and then click **Trust Center Settings**.

3 In the **Trust Center settings**, click **File Block Settings**.

4 In the File Type list, uncheck open for the file type that you want to be converted by PDFG.

5.16.4.4 Network Printer Client installation

PDF Generator includes the Network Printer Client installer for installation of the PDF Generator Internet printer. After the installation is completed, a PDF Generator printer is added to the list of existing printers on the clients computer. This printer can then be used to send documents for conversion to PDF. For more information about installing the Network Printer Client, see Installing and Deploying LiveCycle document for your application server.

5.16.5 Installing East Asian characters in Windows Server 2003

When HTML files are converted to PDF by using PDF Generator, some East Asian languages, such as Japanese, Korean, and Chinese, and also right-to-left languages, such as Arabic, Armenian, Georgian, Hebrew, Indic, Thai, and Vietnamese, may not be displayed in the PDF file.

To ensure that these languages are displayed in Windows Server 2003, appropriate fonts must be present on the client and server.

1 Select **Start** > **Control Panel** and open **Regional and Language Options**.

2 Click the **Languages** tab and select **Install Files for East Asian Languages**.

3 Click the **Advanced** tab and select all the options under Code Page Conversion Tables.

If converted PDF files are still missing fonts, verify that the Arial Unicode MS (TrueType) font (ARIALUNI.TTF) is present in the C:\WINDOWS\Fonts directory.

5.16.6 PDF Generator watched folder performance parameters

To avoid `java.io.IOException` error messages indicating that not enough disk space is available to perform PDF conversions using a watched folder, you can modify the settings for PDF Generator in Administration Console.

1 Log in to Administration Console and click **Services** > **Application and Services** > **Service Management**, and click **PDFGConfigService** in the list of services.

2 On the Configure PDFGConfigService page, set the following values:

PDFG Cleanup Scan Seconds: 1800

Job Expiration Seconds: 6000

Server Conversion Timeout: 450

5.16.7 User accounts for multi-threaded file conversions

By default, PDF Generator can convert only one OpenOffice, Microsoft Word, or PowerPoint document at a time. If you enable multi-threaded conversions, PDF Generator can convert more than one of the documents concurrently by launching multiple instances of OpenOffice or PDFMaker (which is used to perform the Word and PowerPoint conversions).

Note: *Only Microsoft Word 2007 and Microsoft PowerPoint 2007 are supported with multi-threaded file conversions. Microsoft Excel 2003 or 2007 versions are not supported.*

If you need to enable multi-threaded file conversion, you must first perform the tasks outlined in the "*3.4.5.3 Enabling multi-threaded file conversions and multiuser support for PDF Generator*" on page 9 section.

1 In Configuration Manager, click **Services > PDF Generator > User Accounts.**

2 Click **Add** and enter the user name and password of a user who has administrative privileges on the LiveCycle server. If you are configuring users for OpenOffice, dismiss the initial OpenOffice activation dialogs.

Note: *If you are configuring users for OpenOffice, the number of instances of OpenOffice cannot be greater than number of user accounts specified in this step.*

3 Restart the LiveCycle server.

5.16.8 Adding fonts to PDF Generator

LiveCycle provides a central repository of fonts which is accessible to all LiveCycle modules. Make the extra fonts available to non-LiveCycle applications on the server so that PDF Generator can use these fonts to create PDF documents that are created with these applications.

5.16.8.1 Non-LiveCycle applications

The following list contains non-LiveCycle applications that PDF Generator can use for PDF generation on the server side:

Windows-only Applications

- Microsoft Office Word
- Microsoft Office Excel
- Microsoft Office PowerPoint
- Microsoft Office Project
- Microsoft Office Visio
- Microsoft Office Publisher
- AutoDesk AutoCAD
- Corel WordPerfect
- Adobe Photoshop CS
- Adobe FrameMaker
- Adobe PageMaker
- Adobe Acrobat Pro

Multiplatform applications

- OpenOffice Writer
- OpenOffice Calc
- OpenOffice Draw
- OpenOffice Impress

Note: *In addition to these applications, your list may include additional applications that you added.*

Of the above applications, the OpenOffice Suite (which includes Writer, Calc, Draw, and Impress) is available on Windows, Solaris™, and Linux® platforms, whereas other applications are available on Windows only.

5.16.8.2 Adding new fonts to Windows applications only

All the Windows-only applications that are mentioned above can access all the fonts that are available in the C:\Windows\Fonts (or equivalent) folder. In addition to C:\Windows\Fonts, each of these applications may have its own private fonts folders.

Therefore, if you plan to add any custom fonts to the LiveCycle fonts repository, ensure that the same fonts are available to the Windows-only applications also by copying these fonts to either C:\Windows\Fonts or to an equivalent folder.

Your custom fonts must be licensed under an agreement that allows you to use them with the applications that have access to these fonts.

5.16.8.3 Adding new fonts to OpenOffice Suite

Adding custom fonts to OpenOffice Suite is explained on the OpenOffice *Fonts-FAQ* page at http://wiki.services.openoffice.org.

In addition, OpenOffice Suite has these resources about the fonts-related behavior:

- *OpenOffice Fonts Troubleshooting Guide* at http://www.openoffice.org/FAQs/fontguide.html. Some of the text in this guide is applicable only to OpenOffice 1.x and therefore may be obsolete for OpenOffice 3.1 and above.
- *Importing Fonts into OpenOffice 2.1* at http://openoffice.blogs.com/openoffice/2007/02/font_import_wiz.html. Even though this blog mentions OpenOffice 2.1, the instructions that are mentioned should be applicable to OpenOffice 3.1 and later

5.16.8.4 Adding new fonts to other applications

If you added support for PDF creation in other applications, see the Help for these applications to add new fonts. In Windows, copying your custom fonts to the C:\Windows\Fonts (or equivalent) folder should be sufficient.

5.16.9 Configuring HTML to PDF conversions

The HTML-to-PDF conversion process is designed to use the settings from Acrobat XI that override the settings from PDF Generator.

Note: *This configuration is required to enable the HTML-to-PDF conversion process, otherwise this conversion type will fail.*

1 Install and validate Acrobat as described in "5.16.4 Configuring Acrobat" on page 35.

2 Locate the pdfgen.api file in the *[LiveCycle root]*\plugins\x86_win32 directory and copy it to *[Acrobat root]*\Acrobat\plug_ins directory.

5.16.9.1 Enabling support for Unicode fonts in HTML to PDF conversions

Important: *The HTML-to-PDF conversion fails if a zipped input file contains HTML files with double-byte characters in filenames. To avoid this problem, do not use double-byte characters when naming HTML files.*

1 Copy the Unicode font to any of the following directories as appropriate for your system:

- *[Windows root]*\Windows\fonts
- *[Windows root]*\WINNT\fonts

2 Modify the font-name mapping in the cffont.properties file located in the *[LiveCycle root]*/adobe-generatepdf-dsc.jar file:

- Extract this archive, and locate the cffont.properties file and open it in an editor.
- In the comma-separated list of Java font names, add a map to your Unicode system font for each font type. In the example below, kochi mincho is the name of your Unicode system font.

```
dialog=Arial, Helvetica, kochi mincho

dialog.bold=Arial Bold, Helvetica-Bold, kochi mincho ...
```

- Save and close the properties file, and then repackage and redeploy the adobe-generatepdf-dsc.jar file.

Note: *On a Japanese operating system, specify the font mapping in the cffont.properties.ja file as well, which takes precedence over the standard cffont.properties file.*

Fonts in the list are searched from left to right, using the first font found. HTML-to-PDF conversion logs return a list of all the font names that are found in the system. To determine the font name you need to map, add the font to one of the directories above, restart the server, and run a conversion. You can determine from the log files the font name to use for mapping.

To embed the font in the generated PDF files, set the `embedFonts` property in the cffont.properties file to `true` (the default is `false`).

5.16.10 Modifying Microsoft Visio 2007 default macro settings

When a Microsoft Visio 2007 file containing macros is submitted for conversion, the resultant Microsoft Office Visio Security Notice dialog causes the conversion to time out. To successfully convert files that contain macros, the default macro settings in Visio must be changed.

- In Visio 2007, click **Tools** > **Trust Center** > **Macro Settings** and select either of the following options and then click **OK**:
  - Disable all macros without notification
  - Enable all macros

5.16.11 Installing the PDF Generator Network Printer client

PDF Generator includes an executable file to install the PDF Generator network printer on a client computer. After the installation is complete, a PDF Generator printer is added to the list of existing printers on the client computer. This printer can then be used to send documents for conversion to PDF.

Note: *The Network Printer Client installation wizard available in the Administration Console is supported only on Windows operating system. Ensure that you use a 32-bit JVM to launch the Network Printer Client installation wizard. You will encounter an error if you use a 64-bit JVM.*

If the PDFG Network Printer fails to install on Windows, use the operating system's native Add Printer utility and configure it as described in "5.16.11.2 Configure PDF Generator Network Printer on Windows using the native Add Printer wizard" on page 40.

5.16.11.1 Install the PDF Generator Network Printer Client

Note: *Before installing the PDF Generator network printer client on Windows Server 2008, Ensure that you have the Internet Printing Client feature installed on your Windows Server 2008. For installing the feature, see Windows Server 2008 Help.*

1. Ensure that you successfully installed PDF Generator on your server.
2. Do one of the following:
   - From a Windows client computer, enter the following URL in your web browser, where *[host]* is the name of the server where you installed PDF Generator and *[port]* is the application server port used:

     `http://[host]:[port]/pdfg-ipp/install`
   - In Administration Console, click **Home > Services > PDF Generator Evaluation > PDFG Network Printer**. In the **PDFG Network Printer Installation** section, click **Click here** to launch the PDFG Network Printer Installation.

3 On the Configure Internet Port screen, select **Use the specified user account** and provide the credentials of a LiveCycle user who has the PDFG Administrator/User role. This user must also have an email address that can be used to receive the converted files. To have this security setting applied to all users on the client computer, select **Use the same security options for all users**, and then click **OK**.

Note: *If the users' password changes, then users will need to reinstall the PDFG Network Printer on their computers. You cannot update the password from Administration Console.*

Upon successful installation, a dialog box appears, indicating that "The Printer LiveCycle PDF Generator has been successfully installed."

4 Click **OK**. You will now have a printer named *LiveCycle PDF Generator* in your list of available printers.

5.16.11.2 Configure PDF Generator Network Printer on Windows using the native Add Printer wizard

1 Click **Start** > **Printers and Faxes** and double-click **Add Printer**.

2 Click **Next**, select **A network printer, or a printer attached to another computer**, and then click **Next**.

3 Select **Connect to a printer on the internet or on a home or office network** and type the following URL for the PDFG printer, where *[host]* is the server name and *[port]* is the port number where the server is running:

`http://[host]:[port]/pdfg-ipp/printer`

4 On the Configure Internet Port screen, select **Use the specified user account** and provide valid User Management credentials.

5 In the **Printer Driver Select** box, choose any standard PostScript-based printer driver (for example, HP Color LaserJet PS).

6 Complete the installation by choosing appropriate options (for example, setting this printer as default).

Note: *The user credentials used while adding the printer must have a valid email ID configured in User Management to receive the response.*

❖ Configure the email service's sendmail service. Provide a valid SMTP server and authentication information in the service's configuration options.

5.16.11.3 Install and configure the PDF Generator Network Printer Client using Proxy server port forwarding

1 Configure port forwarding on the CC Proxy server on a particular port to the LiveCycle server, and disable the authentication at proxy server level (since LiveCycle uses its own authentication). If a client connects to this Proxy server on the forwarded port, then all the requests will be forwarded to the LiveCycle server.

2 Install PDFG Network Printer using the following URL:

`http://[proxy server]:[forwarded port]/pdfg-ipp/install.`

3 Provide the necessary credentials for authentication of the PDFG Network Printer.

4 The PDFG Network Printer will be installed on the client machine which you can use for PDF conversion using the firewall protected LiveCycle server.

5.16.12 Enable PDF Conversion for Microsoft Word document containing protected fields

The PDF Generator supports Microsoft Word documents containing protected fields. To enable PDF Conversion for Microsoft Word document containing protected fields, change the file type settings:

1 In the **Administration Console**, navigate to **Services** > **PDF Generator** > **File Type Settings**, and open your file type settings profile.

2 Expand the **Microsoft Word** option and select the **Preserve document markup in Adobe PDF (for Microsoft Office 2003 or later)** option.

3 Click **Save As**, specify name of the file type setting, and click **OK**.

5.17 Configuring Connectors for ECM

If you installed the Connector for IBM FileNet as part of your LiveCycle solution, you must configure the service to connect to the FileNet object store.

Complete the following procedure to configure the Connector for IBM FileNet service using FileNet 4.0 , 4.5 or 5.0.

5.17.1 Configure the connector using FileNet 4.0, 4.5 or 5.0 and CEWS transport

1 (JBoss 5.1) Open the application server run file *[JBoss root]*/bin/run.conf.bat in a text editor.

2 Add the location of the FileNet Configuration files as a Java option to the application server start command, and then save the file.

Note: *If JBoss is running as a service, add the Java option in the registry where other JVM arguments are defined.*

```
-Dwasp.location= <configuration files location>
```

For example, using a default FileNet Application Engine installation on a Windows operating system, add this Java option:

```
-Dwasp.location=C:/Progra~1/FileNet/AE/CE_API/wsi
```

3 If your deployment uses the Process Engine Connector service, copy the file *[JBoss root]*\client\logkit.jar to the following directory:

- *[JBoss root]*/server/lc_turnkey/lib

4 Locate the adobe-component-ext.properties file in the *[JBoss root]*/bin folder (if the file does not exist, create it).

5 Add a new system property that provides the location of these FileNet Application Engine JAR files:

For Filenet 4.x add following JAR files.

- javaapi.jar
- soap.jar
- wasp.jar
- builtin_serialization.jar (FileNet 4.0 only)
- wsdl_api.jar
- jaxm.jar

- jaxrpc.jar
- saaj.jar
- jetty.jar
- runner.jar
- p8cjares.jar
- Jace.jar
- (optional) pe.jar

For Filenet 5.0 add following JAR files

- Jace.jar
- javaapi.jar
- log4j.jar
- mailapi.jar
- pe.jar
- stax-api.jar
- xlxpScanner.jar
- xlxpScannerUtils.jar
- xml.jar

Note: *Add the pe.jar file only if your deployment uses the IBMFileNetProcessEngineConnector service. The new system property should reflect this structure:*

```
[component id].ext=[JAR files and/or folders]
```

Note: *Do not overwrite the existing contents of the properties file. Simply append the new system property to the contents.*

For example, using a default FileNet Application Engine installation on a Windows operating system, add the following system property on a new line with no line breaks and end the line with a carriage return:

Note: *The following text contains formatting characters for line breaks. If you copy this text to a location outside this document, remove the formatting characters when you paste it to the new location.*

Note: *For FileNet 4.x, add following files*

```
com.adobe.livecycle.ConnectorforIBMFileNet.ext=
C:/Program Files/FileNet/AE/CE_API/lib2/javaapi.jar,
C:/Program Files/FileNet/AE/Workplace/WEB-INF/lib/soap.jar,
C:/Program Files/FileNet/AE/CE_API/wsi/lib/wasp.jar,
C:/Program Files/FileNet/AE/CE_API/wsi/lib/builtin_serialization.jar,
C:/Program Files/FileNet/AE/CE_API/wsi/lib/wsdl_api.jar,
C:/Program Files/FileNet/AE/CE_API/wsi/lib/jaxm.jar,
C:/Program Files/FileNet/AE/CE_API/wsi/lib/jaxrpc.jar,
C:/Program Files/FileNet/AE/CE_API/wsi/lib/saaj.jar,
C:/Program Files/FileNet/AE/CE_API/wsi/lib/jetty.jar,
C:/Program Files/FileNet/AE/CE_API/wsi/lib/runner.jar,
C:/Program Files/FileNet/AE/CE_API/lib2/p8cjares.jar,
C:/Program Files/FileNet/AE/CE_API/lib/Jace.jar,
C:/Program Files/FileNet/AE/Workplace/WEB-INF/lib/pe.jar
```

Note: *Add* `C:/Program Files/FileNet/AE/Workplace/WEB-INF/lib/pe.jar` *only if your deployment uses the IBMFileNetProcessEngineConnector service.*

Note: *For FileNet 4.5, remove the line C:/Program Files/FileNet/AE/CE_API/wsi/lib/builtin_serialization.jar,*

Note: *For FileNet 5.0, add the following jar files*

```
C:/Program Files/FileNet/AE/CE_API/lib/Jace.jar,
C:/Program Files/FileNet/AE/CE_API/lib2/javaapi.jar,
C:/Program Files/FileNet/AE/CE_API/lib2/log4j.jar,
C:/Program Files/FileNet/AE/Router/lib/mailapi.jar,
C:/Program Files/FileNet/AE/Workplace/WEB-INF/lib/pe.jar,
C:/Program Files/FileNet/AE/CE_API/lib/stax-api.jar,
C:/Program Files/FileNet/AE/CE_API/lib/xlxpScanner.jar,
C:/Program Files/FileNet/AE/CE_API/lib/xlxpScannerUtils.jar,
C:/Program Files/FileNet/AE/Router/java/jre/lib/xml.jar
```

6 (FileNet Process Engine Connector only) Configure the connection properties for the process engine as follows:

- Using a text editor, create a file with the following content as a single line and end the line with a carriage return:

  ```
  RemoteServerUrl = cemp:http://[contentserver_IP]:[contentengine_port]/
  wsi/FNCEWS40DIME/
  ```

- Save the file as WcmApiConfig.properties in a separate folder, and add the location of the folder that contains the WcmApiConfig.properties file to the adobe-component-ext.properties file.

  For example, if you save the file as c:/pe_config/WcmApiConfig.properties, add the path c:/pe_config to the adobe-component-ext.properties file.

Note: *The filename is case-sensitive.*

7 Locate the login-config.xml file in the following folder and add the following application policy as a child of the <policy> node:

- *[JBoss root]*/server/lc_turnkey/conf

```
<application-policy name = "FileNetP8WSI">
     <authentication>
     <login-module code = "com.filenet.api.util.WSILoginModule" flag =
    "required" />
     </authentication>
</application-policy>
```

8 (FileNet Process Engine Connector only) If your deployment uses the process engine, add the following node to the login-config file:

```
<application-policy name = "FileNetP8">
    <authentication>
        <login-module code = "com.filenet.api.util.WSILoginModule" flag =
        "required" />
    </authentication>
</application-policy>
```

9 If the application server is not currently running, start the service. Otherwise, stop and then restart the server.

10 If JBoss runs as a service, start (or restart) the JBoss for Adobe LiveCycle ES4 service.

11 Open a web browser and enter this URL:

`http://`*[host]*`:`*[port]*`/adminui`

12 Log in using the default user name and password:

User name: administrator

Password: password

13 Click **Services** > **Connector for IBM FileNet**.

14 Provide all of the required FileNet repository information and, under Repository Service Provider Information, select **IBM FileNet Repository Provider**.

If your deployment uses the optional process engine service, under Process Engine Settings, select **Use Process Engine Connector Service** and specify the process engine settings. For more information, click the **Help** link in the upper-right corner of the page.

Note: *The credentials that you provide in this step are validated later when you start the IBM FileNet repository services. If the credentials are not valid, an error is thrown and the services will not start.*

15 Click **Save** and navigate to **Services** > **Applications and Services** > **Service Management**.

16 Select the check box next to **IBMFileNetProcessEngineConnector** (if configured) and then click **Start.**

17 Select the check box next to each of these services and then click **Start**:

- IBMFileNetAuthProviderService
- IBMFileNetContentRepositoryConnector
- IBMFileNetRepositoryProvider
- IBMFileNetProcessEngineConnector (if configured)

If any of the services do not start correctly, verify the settings entered in step 15.

18 Do one of the following tasks:

- To use the FileNet Authorization service (IBMFileNetAuthProviderService) to display content from a FileNet object store in the Resources view of Workbench, continue with this procedure. Using the FileNet Authorization service overrides the default LiveCycle authorization and must be configured to log in to Workbench by using FileNet credentials.
- To use the LiveCycle repository, log in to Workbench by using the LiveCycle super administrator credentials (by default, *Administrator* and *password*). The credentials provided in step 15 use the default LiveCycle authorization service for accessing the default repository in this case.

19 Enable the Remoting and EJB endpoints by doing these tasks:

- Log in to Administration Console and click **Home > Services > Application and Services > Service Management**.
- Filter the category *Connector for IBM FileNet* and click **IBMFileNetContentRepositoryConnector:1.0.**
- Select the disabled endpoints and enable them.

20 Restart your application server.

21 Log in to Administration Console and click **Settings** > **User Management** > **Domain Management**.

22 Click **New Enterprise Domain** and then type a domain ID and name. The domain ID is the unique identifier for the domain. The name is a descriptive name for the domain.

Note: *When using MySQL for your LiveCycle database, use only single-byte (ASCII) characters for the ID. (See "Adding enterprise domains" in LiveCycle Administration Help.)*

23 Add a custom authentication provider:

- Click **Add Authentication**.

- In the **Authentication Provider** list, select **Custom**.
- Select **IBMFileNetAuthProviderService** and then click **OK**.

24 Add an LDAP authentication provider:

- Click **Add Authentication**.
- In the **Authentication Provider** list, select **LDAP** and then click **OK**.

25 Add an LDAP directory:

- Click **Add Directory** and, in the **Profile Name** box, type a unique name, and then click **Next**.
- Specify values for the **Server**, **Port**, **SSL**, **Binding**, and **Populate page with** options. If you select **User** for the **Binding** option, you must also specify values for the **Name** and **Password** fields.
- (Optional) Select **Retrieve Base DN** to retrieve base domain names, as required. When finished, click **Next**.
- Configure the user settings, click **Next**, configure group settings as required, and then click **Next**.

  For details about the settings, click **Help** linkin the upper-right corner of the page.

26 Click **OK** to exit the Add Directory page, and then click **OK** again.

27 Select the new enterprise domain and click **Sync Now**. Depending on the number of users and groups in your LDAP network and the speed on your connection, the synchronization process may take several minutes.

(Optional) To verify the status of the synchronization, click **Refresh** and view the status in the **Current Sync State** column.

28 Navigate to **Settings** > **User Management** > **Users and Groups**.

29 Search for users that were synchronized from LDAP and perform these tasks:

- Select one or more users and click **Assign Role**.
- Select one or more LiveCycle roles and click **OK**.
- Click **OK** a second time to confirm the role assignment.

Repeat this step for all users you want to assign roles to. For more information, click the **Help** link in the upper-right corner of the page.

30 Start Workbench and log in using the following credentials for the IBM FileNet repository:

User name:*[username]@[repository_name]*

Password: *[password]*

The FileNet object store should now be visible in the Resources view within Workbench. If you do not log in using the *username@repository name*, Workbench attempts to log in to the default repository specified in step 15.

31 (Optional) If you intend to install the LiveCycle Samples for Connector for IBM FileNet, create a FileNet object store named *Samples* and install the samples in that object store.

After you configure your Connector for IBM FileNet service, it is recommended that you see LiveCycle Administration Help. for information about configuring Workbench functions properly with your FileNet repository.

5.18 Configuring Connector for EMC Documentum

Note: *LiveCycle supports EMC Documentum, versions 6.0, 6.5, 6.7 SP1, and 7.0 and minor updates only. Make sure your ECM is upgraded accordingly.*

If you installed Connector for EMC Documentum as part of your LiveCycle solution, complete the following procedure to configure the service to connect to the Documentum repository.

Configure Connector for EMC Documentum

1 Locate the adobe-component-ext.properties file in the *[JBoss root]*/bin folder (if the file does not exist, create it).

2 Add a new system property that provides the following Documentum Foundation Classes JAR files:

- dfc.jar
- aspectjrt.jar
- log4j.jar
- jaxb-api.jar
- (For Connector for EMC Documentum 6.5 only)
  - configservice-impl.jar,
  - configservice-api.jar

The new system property should take on this form:

```
[component id].ext=[JAR files and/or folders]
```

For example, using default Content Server and Documentum Foundation Classes installations, add to the file one of the following system properties on a new line, with no line breaks, and end the line with a carriage return:

- Connector for EMC Documentum 6.5 only:

```
com.adobe.livecycle.ConnectorforEMCDocumentum.ext=
C:/Program Files/Documentum/Shared/dfc.jar,
C:/ProgramFiles/Documentum/Shared/aspectjrt.jar,
C:/Program Files/Documentum/Shared/log4j.jar,
C:/Program Files/Documentum/Shared/jaxb-api.jar,
C:/Program Files/Documentum/Shared/configservice-impl.jar,
C:/Program Files/Documentum/Shared/configservice-api.jar
```

Note: *The above text contains formatting characters for line breaks. If you copy and paste this text, you must remove the formatting characters.*

3 Open a web browser and enter this URL:

```
http://[host]:[port]/adminui
```

4 Log in using the default user name and password:

User name: administrator

Password: password

5 Navigate to **Services** > **Connector for EMC Documentum** > **Configuration Settings** and perform these tasks:

- Type all the required Documentum repository information.
- To use Documentum as your repository provider, under Repository Service Provider Information, select **EMC Documentum Repository Provider**, and then click **Save**. For more information, click the Help link in the upper-right corner of the page in the Adobe LiveCycle ES4 Administration Help.

6 (Optional) Navigate to **Services** > **Connector for EMC Documentum** > **Repository Credentials Settings**, click **Add**, specify the Docbase information, and then click **Save**. (For more information, click **Help** in the upper-right corner.)

7 If the application server is not currently running, start the server. Otherwise, stop and then restart the server.

8 Open a web browser and enter this URL.

```
http://[host]:[port]/adminui
```

9 Log in using the default user name and password:

User name: administrator

Password: password

10 Navigate to **Services** > **Applications and Services** > **Service Management** and select these services:

- EMCDocumentumAuthProviderService
- EMCDocumentumContentRepositoryConnector
- EMCDocumentumRepositoryProvider

11 Click **Start**. If any of the services do not start correctly, check the settings you completed earlier.

12 Do one of the following tasks:

- To use the Documentum Authorization service (EMCDocumentumAuthProviderService) to display content from a Documentum repository in the Resources view of Workbench, continue with this procedure. Using the Documentum Authorization service overrides the default LiveCycle authorization and must be configured to log in to Workbench using Documentum credentials.
- To use the LiveCycle repository, log in to Workbench by using the LiveCycle super administrator credentials (by default, *administrator* and *password*).

You have now completed the required steps for this procedure. Use the credentials provided in step 19 for accessing the default repository in this case and use the default LiveCycle authorization service.

13 Enable the Remoting and EJB endpoints by doing these tasks:

- Log in to Administration Console and click **Home > Services > Application and Services > Service Management**.
- Filter the category *Connector for EMC Documentum a*nd click **EMC DocumentumContentRepositoryConnector:1.0.**
- Select the disabled endpoints and enable them.

14 Restart the application server.

15 Log in to Administration Console and click **Settings** > **User Management** > **Domain Management**.

16 Click **New Enterprise Domain**, and type a domain ID and name. The domain ID is the unique identifier for the domain. The name is a descriptive name for the domain.

Note: *Use only single-byte (ASCII) characters for the ID. (See "Adding enterprise domains" in LiveCycle Administration Help.)*

17 Add a custom authentication provider:

- Click **Add Authentication**.
- In the Authentication Provider list, select **Custom**.
- Select **EMCDocumentumAuthProvider** and then click **OK**.

18 Add an LDAP authentication provider:

- Click **Add Authentication**.
- In the Authentication Provider list, select **LDAP**, and then click **OK**.

19 Add an LDAP directory:

- Click **Add Directory**.
- In the Profile Name box, type a unique name, and then click **Next**.
- Specify values for the **Server**, **Port**, **SSL**, **Binding**, and **Populate page with** options. If you select User for the Binding option, you must also specify values for the **Name** and **Password** fields.
- (Optional) Select **Retrieve Base DN** to retrieve base domain names, as required.
- Click **Next**, configure the user settings, click **Next**, configure group settings, as required, and then click **Next**.

  For details about the settings, click **User Management Help** in the upper-right corner of the page.

20 Click **OK** to exit the Add Directory page and then click OK again.

21 Select the new enterprise domain and click **Sync Now**. Depending on the number of users and groups in your LDAP network and the speed on your connection, the synchronization process may take several minutes.

(Optional) To verify the status of the synchronization, click **Refresh** and view the status in the Current Sync State column.

22 Navigate to **Settings > User Management > Users and Groups**.

23 Search for users that were synchronized from LDAP and perform these tasks:

- Select one or more users and click **Assign Role**.
- Select one or more LiveCycle roles and click **OK**.
- Click **OK** a second time to confirm the role assignment.

  Repeat this step for all users that you assign roles to. For more information, click **User Management Help** in the upper-right corner of the page.

24 Start Workbench and log in by using the credentials for the Documentum repository:

Username: [*username*]@[*repository_name*]

Password: [*password*]

After you log in, the Documentum repository appears in the Resources view within Workbench. If you do not log in using the *username@repository_name*, Workbench attempts to log in to the default repository.

25 (Optional) To install the LiveCycle Samples for Connector for EMC Documentum, create a Documentum repository named Samples, and then install the samples in that repository.

After you configure the Connector for EMC Documentum service, see *LiveCycle Administration Help* for information about configuring Workbench with your Documentum repository.

5.19 Configuring the Connector for IBM Content Manager

***Note:** LiveCycle supports IBM Content Manager, version 8.4 only. Make sure your ECM is upgraded accordingly.*

If you installed the Connector for IBM Content Manager as part of your LiveCycle solution, complete the following procedure to configure the service to connect to the IBM Content Manager datastore.

Configure Connector for IBM Content Manager

1 Locate the adobe-component-ext.properties file in the *[JBoss root]*/bin folder. If the file does not exist, create it.

2 Add a new system property that provides the location of the following IBM II4C JAR files:

- cmb81.jar
- cmbcm81.jar
- cmbicm81.jar
- cmblog4j81.jar
- cmbsdk81.jar
- cmbutil81.jar
- cmbutilicm81.jar
- cmbview81.jar
- cmbwas81.jar
- cmbwcm81.jar
- cmgmt

Note: *cmgmt is not a JAR file. On Windows, by default, this folder is at* `C:/Program Files/IBM/db2cmv8/`.

- common.jar
- db2jcc.jar
- db2jcc_license_cisuz.jar
- db2jcc_license_cu.jar
- ecore.jar
- ibmjgssprovider.jar
- ibmjsseprovider2.jar
- ibmpkcs.jar
- icmrm81.jar
- jcache.jar
- log4j-1.2.8.jar
- xerces.jar
- xml.jar
- xsd.jar

The new system property looks similar to the following:

```
[component id].ext=[JAR files and/or folders]
```

For example, using a default DB2 Universal Database Client and II4C installation, in the file, add the following system property on a new line, with no line breaks, and end the line with a carriage return:

```
C:/Program Files/IBM/db2cmv8/cmgmt,
C:/Program Files/IBM/db2cmv8/java/jre/lib/ibmjsseprovider2.jar,
C:/Program Files/IBM/db2cmv8/java/jre/lib/ibmjgssprovider.jar,
C:/Program Files/IBM/db2cmv8/java/jre/lib/ibmpkcs.jar,
C:/Program Files/IBM/db2cmv8/java/jre/lib/xml.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbview81.jar,
C:/Program Files/IBM/db2cmv8/lib/cmb81.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbcm81.jar,
C:/Program Files/IBM/db2cmv8/lib/xsd.jar,
C:/Program Files/IBM/db2cmv8/lib/common.jar,
C:/Program Files/IBM/db2cmv8/lib/ecore.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbicm81.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbwcm81.jar,
C:/Program Files/IBM/db2cmv8/lib/jcache.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbutil81.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbutilicm81.jar,
C:/Program Files/IBM/db2cmv8/lib/icmrm81.jar,
C:/Program Files/IBM/db2cmv8/lib/db2jcc.jar,
C:/Program Files/IBM/db2cmv8/lib/db2jcc_license_cu.jar,
C:/Program Files/IBM/db2cmv8/lib/db2jcc_license_cisuz.jar,
C:/Program Files/IBM/db2cmv8/lib/xerces.jar,
C:/Program Files/IBM/db2cmv8/lib/cmblog4j81.jar,
C:/Program Files/IBM/db2cmv8/lib/log4j-1.2.8.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbsdk81.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbwas81.jar
```

3 If the application server is not currently running, start the server; otherwise, stop and then restart the server.

You can now connect to the IBM Content Manager datastore from the IBMCMConnectorService Property Sheets by using the Use User Credentials as the login mode.

You have now completed the required steps for this procedure.

(Optional) If you want to connect to IBM Content Manager datastore from IBMCMConnectorService Property Sheets by using the Use Credentials From Process Context as the login mode, complete the following procedure.

Connect using Use Credentials from process context login mode

1 Open a web browser and enter this URL:

http://*[host]*:*[port]*/adminui

2 Log in using the super administrator credentials. Default values set during installation are:

User name:*administrator*

Password:*password*

3 Click **Services** > **Connector for IBM Content Manager** > **Configuration Settings**.

4 Type all of the required repository information and click **Save**. For more information about the IBM Content Manager repository information, click the **Help** link in the upper-right corner of the page.

5 Do one of these tasks:

- To use the IBM Content Manager Authorization service (IBMCMProviderService) to use content from an IBM Content Manager datastore, in the Processes view of Workbench, continue with this procedure. Using the IBM Content Manager Authorization service overrides the default LiveCycle authorization and must be configured to log in to Workbench by using IBM Content Manager credentials.

- To use the System Credentials provided in step 4 to use content from an IBM Content Manager datastore, in the Processes view of Workbench, log in to Workbench by using the LiveCycle super administrator credentials (by default, *administrator* and *password*). You have now completed the required steps for this procedure. The System Credentials that are provided in step 4 use the default LiveCycle authorization service for accessing the default repository in this case.

6 Log in to the Administration Console, and click **Settings** > **User Management** > **Domain Management**.

7 Click **New Enterprise Domain** and type a domain ID and name. The domain ID is the unique identifier for the domain. The name is a descriptive name for the domain.

Note: *Use only single-byte (ASCII) characters for the ID. (See Adding enterprise domains in LiveCycle Administration Help.)*

8 Add a custom authentication provider:

- Click **Add Authentication**.
- In the **Authentication Provider** list, select **Custom**, and then select **IBMCMAuthProviderService** and click **OK**.

9 Add an LDAP authentication provider:

- Click **Add Authentication**.
- In the **Authentication Provider** list, select **LDAP** and then click **OK**.

10 Add an LDAP directory:

- Click **Add Directory**.
- In the **Profile Name** box, type a unique name, and then click **Next**.
- Specify values for the **Server**, **Port**, **SSL**, **Binding**, and **Populate page with** options. If you select **User** for the **Binding** option, you must also specify values for the **Name** and **Password** fields. (Optional) Select **Retrieve Base DN** to retrieve base domain names, as required. When finished, click **Next**.
- Configure the user settings, click **Next**, configure group settings as required, and then click **Next**.

For details about the above settings, click the **Help** link in the upper-right corner of the page.

11 Click **OK** to exit the Add Directory page and click **OK** again.

12 Select the new enterprise domain and click **Sync Now**. Depending on the number of users and groups in your LDAP network and the speed on your connection, the synchronization process may take several minutes.

13 To verify the status of the synchronization, click **Refresh** and view the status in the **Current Sync State** column.

14 Navigate to **Settings** > **User Management** > **Users and Groups**.

15 Search for users that were synchronized from LDAP and do these tasks:

- Select one or more users and click **Assign Role**.
- Select one or more LiveCycle roles and click **OK**.
- Click **OK** a second time to confirm the role assignment.

Repeat this step for all users that you want to assign roles to. For more information, click the **Help** link in the upper-right corner of the page.

16 Start Workbench and log in using the following credentials for IBM Content Manager datastore:

Username:*[username]@[repository_name]*

Password: *[password]*

The IBM Content Manager datastore can now be used in the Processes view within Workbench when the login mode for IBMCMConnectorService orchestrable components is selected as **Use Credentials from process context.**

5.20 Configuring the Connector for IBM FileNet

Note: *LiveCycle supports FileNet 5.2 Content Engine; FileNet 5.2 Process Engine is not supported. Moreover, the LiveCycle Configuration Manager (LCM) does not support/configure FileNet 5.2, perform manual configuration for FileNet 5.2.*

LiveCycle supports IBM FileNet, versions 4.0, 4.5, 5.0, and 5.2 only. Make sure your ECM is upgraded accordingly.

If you installed Connector for IBM FileNet as part of your LiveCycle, you must configure the service to connect to the FileNet object store.

Configure Connector for IBM FileNet using FileNet 4.x and CEWS transport

```
-Dwasp.location= <configuration files location>
```

For example, using a default FileNet Application Engine installation on a Windows operating system, add this Java option:

```
-Dwasp.location=C:/Progra~1/FileNet/AE/CE_API/wsi
```

1 Add a new system property that provides the location of these FileNet Application Engine JAR files:

For Filenet 4.x add following JAR files.

- javaapi.jar
- soap.jar
- wasp.jar
- builtin_serialization.jar (FileNet 4.0 only)
- wsdl_api.jar
- jaxm.jar
- jaxrpc.jar
- saaj.jar
- jetty.jar
- runner.jar
- p8cjares.jar
- Jace.jar
- (optional) pe.jar

Note: *Add the pe.jar file only if your deployment uses the IBMFileNetProcessEngineConnector service. The new system property should reflect this structure:*

```
[component id].ext=[JAR files and/or folders]
```

Note: *Do not overwrite the existing contents of the properties file. Simply append the new system property to the contents.*

For example, using a default FileNet Application Engine installation on a Windows operating system, add the following system property on a new line with no line breaks and end the line with a carriage return:

Note: *The following text contains formatting characters for line breaks. If you copy this text to a location outside this document, remove the formatting characters when you paste it to the new location.*

```
com.adobe.livecycle.ConnectorforIBMFileNet.ext=
C:/Program Files/FileNet/AE/CE_API/lib2/javaapi.jar,
C:/Program Files/FileNet/AE/CE_API/lib2/log4j-1.2.13.jar
```

2 (FileNet Process Engine Connector only) Configure the connection properties for the process engine as follows:

- Using a text editor, create a file with the following content as a single line and end the line with a carriage return:

  (FileNet 4.x and 5.0 only)

  ```
  RemoteServerUrl = cemp:http://[contentserver_IP]:[contentengine_port]/wsi/FNCEWS40DIME/
  ```

  (FileNet 5.2 only)

  ```
  RemoteServerUrl = cemp:http://[contentserver_IP]:[contentengine_port]/wsi/FNCEWS40MTOM/
  ```

- Save the file as WcmApiConfig.properties in a separate folder, and add the location of the folder that contains the WcmApiConfig.properties file to the adobe-component-ext.properties file.

  For example, if you save the file as c:/pe_config/WcmApiConfig.properties, add the path c:/pe_config to the adobe-component-ext.properties file.

  Note: *The filename is case-sensitive.*

3 If the application server is not currently running, start the server. Otherwise, stop and then restart the server.

4 Open a web browser and enter this URL:

```
http://[host]:[port]/adminui
```

5 Log in using the default user name and password:

User name: administrator

Password: password

6 Click **Services** > **LiveCycle 11 Connector for IBM FileNet**.

7 Provide the Content Engine URL. For example,
`cemp:http://ContentEngineHostNameorIP:port/wsi/FNCEWS40MTOM?jaasConfigurationName=FileNetP8WSI`

8 Provide all of the required FileNet repository information and, under Repository Service Provider Information, select **IBM FileNet Repository Provider**.

If your deployment uses the optional process engine service, under Process Engine Settings, select **Use Process Engine Connector Service** and specify the process engine settings. For more information, click the **Help** link in the upper-right corner of the page.

Note: *The credentials that you provide in this step are validated later when you start the IBM FileNet repository services. If the credentials are not valid, an error is thrown and the services will not start.*

9 Click **Save** and navigate to **Services** > **Applications and Services** > **Service Management**.

10 Select the check box next to **IBMFileNetProcessEngineConnector** (if configured) and then click **Start.**

11 Do one of the following tasks:

- To use the FileNet Authorization service (IBMFileNetAuthProviderService) to display content from a FileNet object store in the Resources view of Workbench, continue with this procedure. Using the FileNet Authorization service overrides the default LiveCycle authorization and must be configured to log in to Workbench by using FileNet credentials.

- To use the LiveCycle repository, log in to Workbench by using the LiveCycle super administrator credentials (by default, *administrator* and *password*). The credentials provided in step 16 use the default LiveCycle authorization service for accessing the default repository in this case.

12 Enable the Remoting and EJB endpoints by doing these tasks:

- Log in to Administration Console and click **Home > Services > Application and Services > Service Management**.
- Filter the category *Connector for IBM FileNet* and click **IBMFileNetContentRepositoryConnector:1.0.**
- Select the disabled endpoints and enable them.

13 Restart your application server.

14 Log in to Administration Console and click **Settings** > **User Management** > **Domain Management**.

15 Click **New Enterprise Domain** and then type a domain ID and name. The domain ID is the unique identifier for the domain. The name is a descriptive name for the domain.

16 Add a custom authentication provider:

- Click **Add Authentication**.
- In the **Authentication Provider** list, select **Custom**.
- Select **IBMFileNetAuthProviderService** and then click **OK**.

17 Add an LDAP authentication provider:

- Click **Add Authentication**.
- In the **Authentication Provider** list, select **LDAP** and then click **OK**.

18 Add an LDAP directory:

- Click **Add Directory** and, in the **Profile Name** box, type a unique name, and then click **Next**.
- Specify values for the **Server**, **Port**, **SSL**, **Binding**, and **Populate page with** options. If you select **User** for the **Binding** option, you must also specify values for the **Name** and **Password** fields.
- (Optional) Select **Retrieve Base DN** to retrieve base domain names, as required. When finished, click **Next**.
- Configure the user settings, click **Next**, configure group settings as required, and then click **Next**.

  For details about the settings, click **Help** link in the upper-right corner of the page.

19 Click **OK** to exit the Add Directory page, and then click **OK** again.

20 Select the new enterprise domain and click **Sync Now**. Depending on the number of users and groups in your LDAP network and the speed on your connection, the synchronization process may take several minutes.

(Optional) To verify the status of the synchronization, click **Refresh** and view the status in the **Current Sync State** column.

21 Navigate to **Settings** > **User Management** > **Users and Groups**.

22 Search for users that were synchronized from LDAP and perform these tasks:

- Select one or more users and click **Assign Role**.
- Select one or more LiveCycle roles and click **OK**.
- Click **OK** a second time to confirm the role assignment.

Repeat this step for all users you want to assign roles to. For more information, click the **Help** link in the upper-right corner of the page.

23 Start Workbench and log in using the following credentials for the IBM FileNet repository:

User name:*[username]@[repository_name]*

Password: *[password]*

The FileNet object store should now be visible in the Resources view within Workbench. If you do not log in using the *username@repository name*, Workbench attempts to log in to the default repository specified in step 16.

24 (Optional) If you intend to install the LiveCycle Samples for Connector for IBM FileNet, create a FileNet object store named *Samples* and install the samples in that object store.

After you configure Connector for IBM FileNet, it is recommended that you see LiveCycle Administration Help for information about configuring Workbench functions properly with your FileNet repository.

5.21 Configuring SharePoint client access

You can configure Microsoft SharePoint clients to access content services from LiveCycle. For this, you should add the SharePoint Alfresco Module Package using Configuration Manager. The SharePoint AMP file (adobe-vti-module.amp) is available in *[LiveCycle root]*\sdk\misc\ContentServices folder.

After you add the SharePoint AMP, perform the following steps:

5.21.1 Obtain and edit the share.war file

Alfresco CMS uses the file share.war to connect with Content Services. You should modify the share.war file to enable SharePoint clients to access Content Services.

1 Obtain the share.war from the Alfresco installation. See your Alfresco documentation for more details.

2 Copy the file share.war to a directory in your file system.

3 Use a file archive utility such as WinRar to open the share.war file.

4 From the file archive utility window, extract the file `WEB-INF/classes/alfresco/webscript-framework-config.xml` and open it using a text editor.

5 Locate the line `<endpoint-url>http://localhost:8080/`**alfresco**`/s</endpoint-url>` and change it to `<endpoint-url>http://localhost:8080/`**contentspace**`/s</endpoint-url>`

6 Save and close the file.

5.21.2 Deploy the share.war file

1 Open the archive file `adobe-contentservices.ear` using an archive utility such as WinRar from the *[JBoss root]*/server/lc_turnkey/deploy/ directory.

2 Add the updated share.war file to the adobe-contentservices.ear archive that is opened in the archive utility window.

3 From the file archive utility window, extract the file `application.xml` to a folder in the local file system, and open it using a text editor. This file is in the `adobe-contentservices.ear\META-INF` directory.

4 Add the following lines under the `<application >` tag:

```
<module id="Share">
    <web>
        <web-uri>share.war</web-uri>
        <context-root>/share</context-root>
    </web>
</module>
```

1 Copy the updated application.xml file back to the adobe-contentservices.ear archive.

2 Save and close the archive.

3 Deploy the updated EAR file by copying the updated EAR file to the *[JBoss root]*/server/lc_turnkey/deploy/ directory.

5.22 Enabling CIFS in IPv6 mode

If you want to enable CIFS for Content Services on an IPv6 implementation, you must explicitly add an additional IPv6 address to the machine that hosts LiveCycle. This IPv6 address should be a static IP address that resides in the same subnet as the clients. You need to do the following tasks after you configure LiveCycle using Configuration Manager. Typically, you should pause the Configuration Manager after the EAR file configuration and then edit the EAR file. After you have edited the EAR file, you can go back to the Configuration Manager to deploy the updated EAR file along with other selected EAR files.

Note: *If users have accessed the repository through CIFS, then the users will be able to access the repository even after content services rights are revoked.*

5.22.1 Edit the contentservices.war file

1 Navigate to *[LiveCycle root]*\configurationManager\export directory.

2 Use a file archive utility such as WinRar to open the contentservices.war file.

3 From the file archive utility window, extract the file `contentservices.war\WEB-INF\classes\alfresco\file-services-custom.xml` and open it using a text editor.

4 Locate the following line and change it by adding `ipv6="enabled"` :

```
<tcpipSMB platforms="linux,solaris,macosx,windows,AIX"/>
```

to

```
<tcpipSMB platforms="linux,solaris,macosx,windows,AIX" ipv6="enabled"/>
```

5 Save and close the file

6 From the file archive utility window, extract the file `contentservices.war\WEB-INF\classes\alfresco\extension\file-servers.properties` and open it using a text editor.

7 Locate the line `cifs.ipv6=disabled` and replace it with `cifs.ipv6=enabled`.

8 Save and close the file.

9 Copy the updated file-servers-custom.xml file into the archive under `contentservices.war\WEB-INF\classes\alfresco\`.

10 Copy the updated file-servers.properties file into the archive under `contentservices.war\WEB-INF\classes\alfresco\extension\`.

11 Save the contentservices.war file.

After you update the EAR files, you should use the Configuration Manager to deploy the updated EAR file.

5.23 Uninstalling previous LiveCycle version post upgrade

After you have upgraded your environment to LiveCycle ES4 and have verified that it is working properly, perform the following steps to remove the product files for previous LiveCycle version.

1. Select **Start** > **Control Panel** > **Add or Remove Programs**, select the LiveCycle version to be removed and click **Remove**.
2. Select JBoss and MySQL to remove these components.
3. Follow the on-screen instructions and then click **Finish**.
4. Restart your computer.

5.24 Performing a system image backup

After LiveCycle is installed and deployed into production areas and before the system is live, it is recommended that you perform a system image backup on servers to which LiveCycle is configured and deployed. The LiveCycle database, GDS directory, and application servers must be part of this backup. This is a complete system backup that you can use to restore the contents of your computer if your hard drive or entire computer stops working. See the "LiveCycle Backup and Recovery" topic in LiveCycle Administration Help.

5.25 Uninstalling LiveCycle

The LiveCycle uninstaller allows you to selectively remove JBoss, MySQL or LiveCycle components if you have a turnkey installation. Before removing MySQL, back up any data you want to keep.

1. Select **Start** > **Control Panel** > **Add or Remove Programs**, click **Adobe LiveCycle ES4** and click **Uninstall/Change**.
2. On the Uninstall Adobe LiveCycle ES4 screen, click **Next**.
3. On the Remove Turnkey Products screen, select **JBoss** and **MySQL** to remove these components along with the LiveCycle components. Click **Next**.
4. On the Stop Enterprise Suite services, click **Uninstall**.
5. Follow the on-screen instructions and then click **Finish**.
6. Restart your computer if prompted to do so.

Note: *If you choose to retain JBoss/MySQL while uninstalling LiveCycle, you can remove these applications later using the* ***Add or Remove Programs*** *utility in Microsoft Windows. Attempts to remove JBoss/MySQL may fail if a JDK is not installed on the server.*

Chapter 6: Advanced Configuration Activities

6.1 Enabling Federal Information Processing Standard (FIPS)

LiveCycle provides a FIPS mode to restrict data protection to Federal Information Processing Standard (FIPS) 140-2 approved algorithms using the RSA BSAFE Crypto-C 2.1 encryption module.

If you did not enable this option by using Configuration Manager during LiveCycle configuration or if you enable it but want to turn it off, you can change this setting through Administration Console.

Modifying FIPS mode requires you to restart the server.

FIPS mode does not support Acrobat versions earlier than 7.0. If FIPS mode is enabled and the Encrypt With Password and Remove Password processes include the Acrobat 5 setting, the process fails.

In general, when FIPS is enabled, the Assembler service does not apply password encryption to any document. If this is attempted, a `FIPSModeException` is thrown, indicating that "Password encryption is not permitted in FIPS mode." Additionally, the `PDFsFromBookmarks` element is not supported in FIPS mode when the base document is password-encrypted.

1 Log in to Administration Console.

2 Click **Settings** > **Core System Settings** > **Configurations**.

3 Select **Enable FIPS** to enable FIPS mode or deselect it to disable FIPS mode.

4 Click **OK** and restart the application server.

Note: *LiveCycle software does not validate code to ensure FIPS compatibility. It provides a FIPS operation mode so that FIPS-approved algorithms are used for cryptographic services from the FIPS-approved libraries (RSA).*

6.2 Enabling AES-256 encryption

To use AES 256 encryption for PDF files, obtain and install the Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy files. These files replace the local_policy.jar and US_export_policy.jar files in the *[Adobe_JAVA_HOME]*/jre/lib/security folder. For example, if you are using Sun JDK 1.6, copy the downloaded files to the *[LiveCycle root]*/Java/jdk1.6.0_31/jre/lib/security folder.

You can download these files from *Java SE Downloads*.

Chapter 7: Appendix - Install Command Line Interface

7.1 Overview

LiveCycle provides a command line interface (CLI) for the installation program. The CLI is intended to be used by advanced users of LiveCycle or in server environments which do not support the use of the Graphical User Interface (GUI) of the installation program. The CLI runs in console mode with one interactive session for all install operations.

Before you install the modules using the CLI install option, ensure that you have prepared your environment required to run LiveCycle according to the Preparing guide for fresh single server installation, cluster setup, or upgrade, as appropriate. The completed LiveCycle documentation is available at http://www.adobe.com/go/learn_lc_documentation_11.

For an overview of the installation process, see Before you begin.

After you start the installation process, follow the on-screen instructions to choose your installation options. Respond to each prompt to proceed to the next step in the installation.

Note: *If you want to change a choice that you made on a previous step, type* `back`*. You can cancel the installation at any time by typing* `quit`*.*

7.2 Install LiveCycle

1. Open a command prompt and navigate to the folder in the installation media or your hard disk that contains the installer executable:
   - (Windows) server\Disk1\InstData\Windows_64\VM
   - (Linux) server/Disk1/InstData/Linux/NoVM
   - (Solaris) server/Disk1/InstData/Solaris/NoVM
2. Open a command prompt and run the following command:
   - (Windows) `install.exe -i console`
   - (Non-Windows) `./install.bin -i console`

   Note: *Entering the command without the* `-i console` *option launches the GUI-based installer.*
3. Respond to the prompts as described in the following table:

Prompt	Description
Choose Locale	Select the locale for the installation to use by entering a value between 1 and 3. You can select the default value by pressing **Enter**. The options are Deutsch, English, and Français. English is the default language.
Upgrade Installation	Select the installation option and press **Enter**. The options are Perform Update or Skip Update. If the installer detects a previous LiveCycle installation, you can choose to upgrade the installation. The upgrade installation will use information from the existing install to help in the current installation.
Choose Install Folder	On the Destination screen, press **Enter** to accept the default directory or type the new installation directory location. Default install folders are: (Windows): C:\Adobe\Adobe LiveCycle ES4 (Non-Windows): /opt/adobe/adobe_livecycle_es4 Do not use accented characters in the directory name. Otherwise, the CLI will ignore the accents and create a directory after modifying the accented characters.
LiveCycle Server License Agreement	Press **Enter** to read through the pages of the license agreement. If you agree to the agreement, type `Y` and press **Enter**.
Pre-Installation Summary	Review the installation choices you have made and press **Enter** to continue installation with the choices you have made. Type `back` to go back to previous steps and change any of the settings.
Ready To Install	Installer displays the installation directory. Press **Enter** to start the installation process.
Installing	During the installation process, the progress bar advances to indicate the progress of installation.
Configuration Manager	Press **Enter** to complete the installation of LiveCycle. You can run the Configuration Manager in GUI mode by invoking the following script: (Windows): `C:\Adobe\Adobe LiveCycle ES4\configurationManager\bin\ConfigurationManager.bat` (Non-Windows): `/opt/adobe/adobe_livecycle_es4/configurationManager/bin/ConfigurationManager.sh`
Installation Complete	The installation completion screen displays the status and the location of install. Press **Enter** to exit the installer.

7.3 Error logs

If an error occurs, you can review the install.log in the log directory of your installation:

- (Windows) *[LiveCycle root]*\log

7.4 Uninstalling LiveCycle in console mode

Note: *If you had installed LiveCycle using the command line option, you can uninstall LiveCycle ES4 only by running the uninstaller from the command line. If you want a silent uninstallation, omit the "-i console" flag.*

1 Open a command prompt, and navigate to the directory which contains the uninstall script:

Note: *On UNIX systems, you should manually navigate to the directory that contains the uninstall script because the directory name contains spaces.*

- (Windows) `cd C:\Adobe\Adobe LiveCycle ES4\Uninstall_Adobe LiveCycle ES4`
- (UNIX-like systems) `cd /opt/adobe/adobe_livecycle_es4/Uninstall_Adobe Livecycle ES4`

2 Type the following command at the prompt and press Enter:

- (Windows) `Uninstall Adobe LiveCycle ES4 -i console`
- (Linux, Solaris) `./Uninstall Adobe Livecycle ES4 -i console`

3 Follow the on-screen instructions.

Prompt	Description
Uninstall LiveCycle ES4	Press **Enter** to continue uninstallation. Enter **quit** to close the uninstall program.
Uninstalling... Uninstall Complete	After the uninstallation starts, the rest of the uninstallation process is completed and the cursor returns to the prompt. Note that some items may not be removed. Also, any folder created after installing LiveCycle are not removed. You must remove these files and folders manually.

Chapter 8: Appendix - Configuration Manager Command Line Interface

LiveCycle provides a Command Line Interface (CLI) for the Configuration Manager. The CLI is intended to be used by advanced users of LiveCycle, for example in server environments which do not support the use of the Graphical User Interface (GUI) of the Configuration Manager.

8.1 Order of operations

The Configuration Manager CLI must follow the same order of operations as the GUI version of the Configuration Manager. Ensure that you use the CLI operations in this order:

1. Shut down the JBoss application server (Upgrade Turnkey only)
2. Migrate the GDS directory contents. (Upgrade Turnkey only)
3. Migrate the custom datasources. (Upgrade Turnkey only)
4. Configure LiveCycle.
5. Configure CRX
6. Update LiveCycle core settings.
7. Configure Content Services.
8. Migrate existing turnkey database (Upgrade Turnkey only).
9. Initialize LiveCycle.
10. Validate LiveCycle.
11. Perform critical tasks before component deployment.
12. Deploy the LiveCycle modules.
13. Validate the LiveCycle module deployment.
14. Migrate Data Essential to LiveCycle
15. Post deployment configurations.
16. Check system readiness for PDF Generator.
17. Add administrator user for PDF Generator.
18. Configure Connector for IBM Content Manager.
19. Configure Connector for IBM FileNet.
20. Configure Connector for EMC Documentum.
21. Configure Connector for SharePoint.

Important: *You must restart your application server after you complete Configuration Manager CLI operations.*

8.2 Command Line Interface property file

The Configuration Manager CLI requires two property files containing the defined properties for your LiveCycle environment. The templates for the properties files, cli_propertyFile_template.txt and cli_propertyFile_upgrade_template.txt, are located in the *[LiveCycle root]*/configurationManager/bin folder.

- cli_propertyFile_template.txt file that contains properties that apply to LiveCycle installation and configuration scenarios, in general.
- cli_propertyFile_upgrade_template.txt file that contains properties specific to upgrading tasks. Both are required for upgrading from a previous version of LiveCycle.

You must create copies of these files and edit the values. You can customize this file based on the Configuration Manager operations you intend to use. The following section describes the properties and values required.

You should create the property file according to your installation. Use one of the following methods.

- Create a property file and populate the values according to your installation and configuration scenarios.
- Copy the property files cli_propertyFile_template.txt and cli_propertyFile_upgrade_template.txt to use these as a template and edit the values based on the Configuration Manager operations you intend to use.
- Use the GUI of the Configuration Manager and then use the property file created by the GUI version as the CLI version property file. When you run the *[LiveCycle root]*/configurationManager/bin/ConfigurationManager.bat/sh file, the userValuesForCLI.properties file is created in the *[LiveCycle root]*/configurationManager/config directory. You can use this file as input for the Configuration Manager CLI.

  Note: *In the CLI properties file, you must use the escape character (\) for Windows paths directory separator (\). For example, if the Fonts folder to be mentioned is C:\Windows\Fonts, in the Configuration Manager CLI script, you should enter it as* `C:\\Windows\\Fonts`.

  Note: *The following modules depend on ALC-LFS-ContentRepository. If you are using the cli_propertyFile_template.txt as template then either remove the ALC-LFS-ContentRepository from excludedSolutionComponents list or add the following LFS in excludedSolutionComponents list:*

  - *ALC-LFS-ProcessManagement*
  - *ALC-LFS-CorrespondenceManagement*
  - *ALC-LFS-ContentRepository*
  - *ALC-LFS-MobileForms*
  - ALC-LFS_FormsManager

8.3 Upgrading LiveCycle Commands

8.3.1 (Turnkey and Partial Turnkey only) Shutdown command for JBoss for previous LiveCycle version

Note: *This command would run only if your LiveCycle ES4 Turnkey installation and your previous Turnkey installation coexist on the same machine and you have chosen to perform an upgrade installation while installing LiveCycle ES4 in Turnkey mode.*

The `upgrade-shutdownPreviousJboss` command shuts down the JBoss service installed with your previous LiveCycle turnkey or partial turnkey installation and sets the service run mode to 'manual'.

This command requires no properties.

8.3.2 (Turnkey and Partial Turnkey only) Migrate LiveCycle GDS command

Note: *This command would run only if your LiveCycle ES4 Turnkey installation and your previous Turnkey installation coexist on the same machine and you have chosen to perform an upgrade installation while installing LiveCycle ES4 in Turnkey mode.*

The `upgrade-migrateGDS` command migrates the Global Document Storage (GDS) directory contents from default GDS location of previous LiveCycle to the default GDS location of LiveCycle ES4.

This command works only for turnkey or partial turnkey installations, and when the default GDS is being used. If a custom GDS is being used, the contents need to be manually migrated. This command also migrates the Connectors for ECM properties file from the LiveCycle JBoss bin directory to the new JBoss location.

This command requires no input properties.

8.3.3 (Turnkey and Partial Turnkey only) Migrate LiveCycle datasources command

Note: *This command would run only if your LiveCycle ES4 Turnkey installation and your previous Turnkey installation coexist on the same machine and you have chosen to perform an upgrade installation while installing LiveCycle ES4 in Turnkey mode.*

The `upgrade-migrateDataSources` command migrates the custom datasource definitions that might have been added to the adobe-ds.xml or <database>-ds.xml datasource files in the JBoss /server/<profile name>/deploy directory. If no custom datasources are defined, skip this command.

The following properties are available for the `upgrade-migrateDataSources` command.

Property	Description	Required	Can be empty
adobeDSDatasourcesToMigrate	A comma separated list of the JNDI_NAME of custom datasources that need to be migrated from the LiveCycle adobe-ds.xml file	No	Yes
mysqlDSDatasourcesToMigrate	A comma separated list of the JNDI_NAME of custom datasources that need to be migrated from LiveCycle <database>-ds.xml file.	No	Yes

Note: *The `mysqlDSDatasourcesToMigrate` property refers to any LiveCycle database that you may have installed, and not just a MySQL database.*

8.3.4 Update LiveCycle core settings command

The `upgrade-configureCoreSettings` command updates various core settings for LiveCycle. For example, if in your previous LiveCycle system you had the Global Document Storage (GDS) directory set at *`C:\LC\GDS`* and in LiveCycle ES4 you plan to set it to *`E:\DS\GDS`*, then the new location is not updated in the database unless this CLI command is executed. Other core settings that can be updated in the same manner are: Adobe server fonts directory, Customer fonts directory, System fonts directory, Enable FIPS, LiveCycle temp directory, LiveCycle global document storage directory.The following properties are available for the `upgrade-configureCoreSettings` command.

Property	Description	Required	Can be empty
prevLCVersion	The version of LiveCycle from which upgrade is being performed. Valid values are 9x, ADEP, or 10.0	Yes	No
excludedSolutionComponents	Comma separated list of modules not being upgraded/installed. This is equivalent to deselecting installed/licensed solution components in the Configuration Manager GUI.	No	Yes

8.3.5 (Turnkey Only) Migrate existing turnkey database command

The `upgrade-migrateTurnkeyDatabase` command is used to migrate data from 'adobe' schema of a previous LiveCycle Turnkey MySQL installation to 'adobe' schema of LiveCycle ES4 Turnkey MySQL installation. Before you run this command, make sure that both the MySQL services are running and are accessible. Also, both the MySQL services should be running on different ports.The following properties are available for the `upgrade-migrateTurnkeyDatabase` command.

Note: *This command would run only if your LiveCycle ES4 Turnkey installation and your previous Turnkey installation coexist on the same machine and you'd chosen to perform an upgrade installation while installing LiveCycle ES4 Turnkey.*

Property	Description	Required	Can be empty
lcDatabaseHostName	Hostname for LiveCycle turnkey database.	Yes	No
lcDatabaseName	Database name for LiveCycle turnkey database. Default is adobe.	Yes	No
lcDatabaseUserName	Username for accessing LiveCycle turnkey database.	Yes	No
lcDatabaseUserPassword	Password for accessing LiveCycle turnkey database. If you don't provide a password in the file, you will prompted to provide it on command line	No	Yes
lcDatabaseDriverFile	Path to driver file for LiveCycle turnkey database.	Yes	No
lcDatabasePortNumber	Port used by LiveCycle turnkey database.	Yes	No
lcDatabaseType	Type of database configured for LiveCycle turnkey database. Default is mysql.	Yes	No
lcPrevDatabaseHostName	Hostname for previous LiveCycle turnkey database.	Yes	No

Property	Description	Required	Can be empty
lcPrevDatabaseName	Database name for previous LiveCycle turnkey database. Default is adobe.	Yes	No
lcPrevDatabaseUserName	Username for accessing previous LiveCycle turnkey database.	Yes	No
lcPrevDatabaseUserPassword	Password for accessing previous LiveCycle turnkey database. If you don't provide a password in the file, you will prompted to provide it on command line	No	Yes
lcPrevDatabaseDriverFile	Path to driver file for previous LiveCycle turnkey database.	Yes	No
lcPrevDatabasePortNumber	The port used by previous LiveCycle turnkey database.	Yes	No
lcPrevDatabaseType	Type of database configured for previous LiveCycle turnkey database. Default is mysql.	Yes	No

8.3.6 Perform critical tasks before component deployment command

The `upgrade-configurePreDeploy` command is used to execute plug-ins to upgrade the components of your previous LiveCycle installation, and make them compatible with LiveCycle, before these components are actually deployed on the LiveCycle Server.The following properties are available for the `upgrade-configurePreDeploy` command.

Property	Description	Required	Can be empty
prevLCVersion	The version of LiveCycle being upgraded. Valid values are 9x, ADEP, or 10.0	Yes	No
excludedSolutionComponents	Comma separated list of components not being installed. This is equivalent to deselecting installed/licensed solution components in the Configuration Manager GUI.	No	Yes

8.3.7 Post-deployment Configuration command

The `upgrade-configurePostDeploy` command does the actual upgrade of the system and is run after LiveCycle EAR files and modules have been deployed.

The following properties are available for the `upgrade-configurePostDeploy` command:

Property	Description	Required	Can be empty
prevLCVersion	The version of LiveCycle being upgraded. Valid values are 821 or 9x .	Yes	No
excludedSolutionComponents	Comma separated list of LiveCycle components not being installed. This is equivalent to deselecting installed/licensed solution components in the GUI.	No	Yes
jboss.clientjar.location	The location of the jbossall-client.jar file (JBoss only)	Yes	Yes

LiveCycle Host and Authorization information

Property	**Description**	**Required**	**Can be empty**
LCHost	Hostname of the LiveCycle Server.	Yes	No
LCPort	Port number on which LiveCycle application server is configured.	Yes	No
lcJndiPort	JNDI port corresponding to LiveCycle application server.	Yes	No
localServer.appServerRoot Dir	This is used to access appserver client JAR files. (Local application server root directory required for WebLogic and WebSphere only)	Yes	Yes
LCAdminUserID	Username of LiveCycle administrator user	Yes	No
LCAdminPassword	Password for administrator user. If you don't provide a password in the file, you will prompted to provide it on command line	No	Yes

LiveCycle Database information

Property	Description	Required	Can be empty
lcDatabaseType	Type of database configured for LiveCycle. Values can be `mysql`, `db2`, `oracle`, or `sqlserver`	Yes	No
lcDatabaseHostName	Hostname for the LiveCycle database.	Yes	No
lcDatabasePortNumber	The port number for the LiveCycle database.	Yes	No
lcDatabaseDriverFile	Path to driver file for the LiveCycle database.	Yes	No
lcDatabaseUserName	Username for accessing the LiveCycle database.	Yes	No
lcDatabaseName	LiveCycle database name. Default is `adobe`.	Yes	No
lcDatabaseUserPassword	Password for accessing database. If you don’t provide a password in the file, you will prompted to provide it on command line	No	Yes

ECM Form template Migration properties

Property	Description	Required	Can be empty
skipFormTemplatesImport	Whether to import form templates from ECM repositories to LiveCycle native repository or skip this step. If set to `false`, the template files (see the next two properties) containing a list of template names to migrate should be provided.	No	Yes
documentumFormTemplatesFile	File containing a list of form templates to migrate from EMC Documentum repository to LiveCycle Native repository. This file is generated using the `upgrade-getFormTemplatesToMigrate` command.	No	Yes
filenetFormTemplatesFile	File containing a list of form templates to be migrated from IBM FileNet repository to LiveCycle Native repository. This file is generated using the `upgrade-getFormTemplatesToMigrate` command.	No	Yes

8.4 General configuration properties

8.4.1 Common properties

Common properties are:

LiveCycle Server specific properties: Required for the Initialize LiveCycle and Deploy LiveCycle Components operations.

These properties are required for the following operations:

- Initialize LiveCycle
- Deploy LiveCycle components.

Property	**Values**	**Description**
LiveCycle Server specific properties		
LCHost	String	The hostname of the server where LiveCycle will be deployed.
LCPort	Integer	The web port number where LiveCycle will be deployed.

Property	Values	Description
excludedSolutionComponents	String. Values include: ALC-LFS-Forms, ALC-LFS-ConnectorEMCDocumentum, ALC-LFS-ConnectorIBMFileNet, ALC-LFS-ConnectorIBMContentManager, ALC-LFS-DigitalSignatures, ALC-LFS-DataCapture, ALC-LFS-Output, ALC-LFS-PDFGenerator, ALC-LFS-ProcessManagement, ALC-LFS-ReaderExtensions, ALC-LFS-RightsManagement ALC-LFS-CorrespondenceManagement, ALC-LFS-ContentRepository, ALC-LFS-MobileForms, ALC-LFS_FormsManager	(Optional) List the LiveCycle modules you do not want to configure. Specify the excluded modules in a comma separated list.
includeCentralMigrationService	true: to include service false: to exclude servcie	The property to include or exclude Central Migration Bridge Service.
CRX Content repository The following properties are specified in the `cli_propertyFile_crx_template.txt` file.		
contentRepository.rootDir		Path of the CRX repository.

8.4.2 Configure LiveCycle properties

These properties only apply to the configure LiveCycle operation.

Property	Values	Description
AdobeFontsDir	String	Location of the Adobe server fonts directory. This path must be accessible from the server being deployed to.
customerFontsDir	String	Location of the customer fonts directory. This path must be accessible from the server being deployed to.
systemFontsDir	String	Location of the system fonts directory. This path must be accessible from the server being deployed to.
LCTempDir	String	Location of the temporary directory. This path must be accessible from the server being deployed to.

Property	Values	Description
LCGlobalDocStorageDir	String	The global document storage root directory. Specify a path to an NFS shared directory used to store long-lived documents and to share them among all cluster nodes. This path must be accessible from the server being deployed to.
EnableDocumentDBStorage	true or false Default: false	Enables or disables document storage in database for persistent documents. Even if you enable document storage in database, you will need the file system directory for GDS.
Content Services **Note**: The following properties are specified in the `cli_propertyFile_content_services_template.txt` file.		
contentServices.rootDir	String	*[Content Services only]* Specify the root directory used by Content Services. If LiveCycle is in clustered environment, this directory must be a location shared by all nodes in a cluster with the same path across all nodes.
contentServices.indexesDir	String	*[Content Services only]* Specify the indexes directory used by Content Services. This directory is unique for each cluster node and must have the same name and location on all nodes. For example, `contentServices.indexesDir=C:\\Adobe\\Adobe LiveCycle ES4\\lccs_indexes`
contentServices.topology	String. Specify either SERVER or CLUSTER. Default: SERVER	*[Content Services only]* SERVER for single node, CLUSTER for a cluster configuration.
contentServices.cifs.enable	true or false Default: false	*[Content Services only]* Enables or disables CIFS.
contentServices.cifs.servername	String	*[Content Services only]* Server name of the CIFS server.
contentServices.cifs.implementation	String. Specify one of the following: • NetBIOS • PureJava	*[Content Services only]* Specifies how Content Services connects to the CIFS server.
contentServices.cifs.dllpath	String. Specify the path from where the NetBIOS DLL will be copied.	*[Content Services only]* Path where NetBios DLL will be copied. Required if "contentServices.cifs.implementation=NetBIOS" . This path must be present in the environment.
contentServices.cifs.alternateIP	Numeric	*[Content Services only]* Alternate IP Address of the CIFS Server. It should be static IP and it is required field if "contentServices.cifs.implementation=PureJava ".
contentServices.cifs.WinsOrBrdcast	String. Specify one of the following: • winsServer • broadcast	*[Content Services only]* DNS discovery method. It can be "winsServer" or "broadCast" and it is required field if "contentServices.cifs.implementation=PureJava ".

Property	Values	Description
contentServices.cifs.winsPrmIP	Numeric	*[Content Services only]* Primary WINS Server IP address. It can obtained from `ipconfig /all` command. It is required field if "contentServices.cifs.implementation=PureJava " and "contentServices.cifs.WinsOrBrdcast=winsServer ".
contentServices.cifs.winsSecIP	Numeric	*[Content Services only]* Secondary WINS Server IP address. It can obtained from `ipconfig /all` command. It is required field if "contentServices.cifs.implementation=PureJava " and "contentServices.cifs.WinsOrBrdcast=winsServer ".
contentServices.cifs.brdCastIP	Numeric	*[Content Services only]* Broadcast IP address. It is required field if "contentServices.cifs.implementation=PureJava " and "contentServices.cifs.WinsOrBrdcast=broadCast ".
contentServices.dbType	String	*[Content Services only]* Content Services database type.
contentServices.configureamps.selectedLCAMPs	Comma separated list of strings	*[Content Services only]* File names of Content Services AMPs that need to be installed. For example, `genericservice-action.amp`, `lc-assemble-clipboard-items.amp`
contentServices.configureamps.externalAMPsDir	String	*[Content Services only]* Directory containing the custom AMPs that need to be installed. ***Note**: All AMPs present in this directory will be installed.*
contentServices.ftp.port	NumericDefault : 8021	FTP Port Value for Content Services.
contentServices.ftp.enable	True or False	**True** to enable internal email server settings and **False** to disable
contentServices.email.serverDomain	String	Domain of the internal email server. If email settings are enabled, this is a required field.
contentServices.email.serverPort	NumericDefault: 25	Email Server Port. If email settings are enabled, this is a required field.
contentServices.internalEmailSettings.enable	True or false	**True** to enable internal email server settings and **False** to disable
contentServices.propagateEventsToLC.enable	True or false	**True** to propogate events to LiveCycle and **False** to disable
contentServices.usageQuota	Numeric	If disk quota is enabled, this is a required field.
contentServices.email.serverAllowedSenders	String	These are the senders from whom emails will be accepted.
contentServices.email.serverBlockedSenders	String	These are senders for whom emails will be blocked.

Property	Values	Description
contentServices.email.unknownUsers	String	The username to authenticate when sender address is not recognized.
contentServices.audit.enable	True or false	When selected, application or user interactions with Content Services repository can be recorded.
(WebSphere only) contentServices.myfacesDir	String	Directory where myfaces jars will be copied and used as shared libs

8.4.3 Configure or validate application server properties

8.4.4 Initialize LiveCycle properties

These initialize LiveCycle properties only apply to the initialize LiveCycle operation.

Property	Values	Description
For more information, see "8.4.1 Common properties" on page 68		

8.4.5 Deploy LiveCycle Components properties

These properties apply to the following operations:

- Deploy LiveCycle Components
- Validate LiveCycle Component Deployment
- Validate LiveCycle Server.

Property	Values	Description
You must configure the LiveCycle Server Information section. For more information, see Common properties		
LCAdminUserID	String	The user ID to assign to the LiveCycle Administrator user. This User ID is used to login to the Administrator Console.
LCAdminPassword	String	The password to assign to the LiveCycle Administrator user. This password is used to login to the Administrator Console.

8.4.6 Add administrator user for PDF Generator

These properties apply only to the adding administrator user for PDF Generator operation. These properties are present in cli_propertyFile_pdfg_template.txt

Property	Values	Description
LCHost	String	Hostname where LiveCycle Server is installed.
LCPort	Integer	Port number where LiveCycle application server is configured
LCAdminUserID	String	The user ID to assign to the LiveCycle Administrator user. This User ID is used to login to the Administrator Console.

Property	Values	Description
LCAdminPassword	String	The password to assign to the LiveCycle Administrator user. This password is used to login to the Administrator Console.
LCServerMachineAdminUser	String	The user ID of the Administrator user of the Operation System hosting LiveCycle
LCServerMachineAdminUserPasswd	String	The password of the Administrator user of the Operation System hosting LiveCycle

8.4.7 Configure Connector for IBM Content Manager

Note: *The following properties are specified in the cli_propertyFile_ecm_ibmcm_template.txt file.*

Property	Values	Description
LCHost	String	Hostname where LiveCycle Server is installed.
LCPort	Integer	Port number where LiveCycle application server is configured
LCAdminUserID	String	The user ID to assign to the LiveCycle Administrator user. This User ID is used to login to the Administrator Console.
LCAdminPassword	String	The password to assign to the LiveCycle Administrator user. This password is used to login to the Administrator Console.
jndiPortNumber	String	JNDI port corresponding to LiveCycle application server.
jboss.clientjar.location	String	The location of the jbossall-client.jar file (JBoss only)
CDVTopology.appserverrootdir	String	The root directory of the application server instance that you are configuring on a remote server (on which you plan to deploy LiveCycle)
ConfigureIBMCM	true or false	Specify true to configure Connector for IBM Content Manager
IBMCMClientPathDirectory	String	Location of IBM Content Manager client installation directory.
DataStoreName	String	Name of the DataStore of IBM Content Manager Server that you want to connect to
IBMCMUsername	String	The user name assign to the IBM Content Manager Administrator user. This User ID is used to login to the IBM Content Manager.
IBMCMPassword	String	The password to assign to the IBM Content Manager Administrator user. This password is used to login to the IBM Content Manager.
ConnectionString	String	Additional arguments used in the connection string to connect to IBM Content Manager(Optional).

8.4.8 Configure Connector for IBM FileNet

Note: *The following properties are specified in the cli_propertyFile_ecm_filenet_template.txt file.*

Property	Values	Description
LCHost	String	Hostname where LiveCycle Server is installed.
LCPort	Integer	Port number where LiveCycle application server is configured
LCAdminUserID	String	The user ID to assign to the LiveCycle Administrator user. This User ID is used to login to the Administrator Console.
LCAdminPassword	String	The password to assign to the LiveCycle Administrator user. This password is used to login to the Administrator Console.
jndiPortNumber	String	JNDI port corresponding to LiveCycle application server.
jboss.clientjar.location	String	The location of the jbossall-client.jar file (JBoss only)
CDVTopology.appserverrootdir	String	The root directory of the application server instance that you are configuring on a remote server (on which you plan to deploy LiveCycle)
ConfigureFilenetCE	true or false	Specify true to configure Connector for IBM Filenet
FilenetConfigureCEVersion	String	The FileNet client version to configure. Specify FilenetClientVersion4.0 or FilenetClientVersion5.0
FilenetCEClientPathDirectory	String	Location of IBM Filenet Content Manager client installation directory.
ContentEngineName	String	Hostname or IP address of the machine where IBM Filenet Content Engine is installed
ContentEnginePort	String	The port number used by IBM Filenet Content Engine
CredentialProtectionSchema	CLEAR or SYMMETRIC	Specify the level of protection.
EncryptionFileLocation	String	Location of the encryption file. This is required only when you select SYMMETRIC option for CredentialProtectionSchema attribute. Use a forward slash (/) or double backward slashes (\\) as a path seperator.
DefaultObjectStore	String	Name of the ObjectStore for the Connector for IBM Filenet Content Server.
FilenetContentEngineUsername	String	The user ID to connect to the IBM FileNet Content server. The user ID with read-access privileges would be allowed to connect to the Default object Store.
FilenetContentEnginePassword	String	The password to assigned to the IBM FileNet user. This password is used to connect to Default object Store.

Property	Values	Description
ConfigureFilenetPE	true or false	Specify true to configure Connector for IBM FileNet
FilenetPEClientPathDirectory	String	Location of IBM FIleNet client installation directory
FilenetProcessEngineHostname	String	Hostname or IP address of the process router.
FilenetProcessEnginePortNumber	Integer	Port number for IBM FileNet Content Server
FilenetPERouterURLConnectionPoint	String	Name of the process router.
FilenetProcessEngineUsername	String	The user ID to connect to the IBM FileNet Content Server
FilenetProcessEnginePassword	String	The password to connect to the IBM FileNet Content Server

8.4.9 Configure Connector for EMC Documentum

Note: *The following properties are specified in the cli_propertyFile_ecm_documentum_template.txt file.*

Property	Values	Description
LCHost	String	Hostname where LiveCycle Server is installed.
LCPort	Integer	Port number where LiveCycle application server is configured
LCAdminUserID	String	The user ID to assign to the LiveCycle Administrator user. This User ID is used to login to the Administrator Console.
LCAdminPassword	String	The password to assign to the LiveCycle Administrator user. This password is used to login to the Administrator Console.
jndiPortNumber	String	JNDI port corresponding to LiveCycle application server.
jboss.clientjar.location	String	The location of the jbossall-client.jar file (JBoss only)
CDVTopology.appserverrootdir	String	The root directory of the application server instance that you are configuring on a remote server (on which you plan to deploy LiveCycle)
ConfigureDocumentum	true or false	Specify true to configure Connector for EMC Documentum
DocumentumClientVersion	String	The EMC Documentum client version to configure. Specify DocumentumClientVersion6.0 or DocumentumClientVersion6.5
DocumentumClientPathDirectory	String	Location of EMC Documentum client installation directory
ConnectionBrokerHostName	String	Hostname or IP address of the EMC Documentum Content Server.
ConnectionBrokerPortNumber	String	Port number for EMC Documentum Content Server

Property	Values	Description
DocumentumUsername	String	The user ID to connect to the EMC Documentum Content Server.
DocumentumPassword	String	The password ID to connect to the EMC Documentum Content Server.
DocumentumDefaultRepositoryName	String	Name of the default repository of MC Documentum Content Server

8.4.10 Configure Connector for Microsoft SharePoint

Note: *The following properties are specified in the cli_propertyFile_ecm_sharepoint_template.txt file.*

Property	Values	Description
LCHost	String	Hostname where LiveCycle Server is installed.
LCPort	Integer	Port number where LiveCycle application server is configured
LCAdminUserID	String	The user ID to assign to the LiveCycle Administrator user. This User ID is used to login to the Administrator Console.
LCAdminPassword	String	The password to assign to the LiveCycle Administrator user. This password is used to login to the Administrator Console.
jndiPortNumber	String	JNDI port corresponding to LiveCycle application server.
jboss.clientjar.location	String	The location of the jbossall-client.jar file (JBoss only)
CDVTopology.appserverrootdir	String	The root directory of the application server instance that you are configuring on a remote server (on which you plan to deploy LiveCycle)
ConfigureSharePoint	true or false	Specify true to configure Connector for Microsoft SharePoint
SharePointServerAddress	String	Hostname or IP address of the Sharepoint Server
SharePointUsername	String	The user ID to connect to the Sharepoint Server
SharePointPassword	String	The password to connect to the Sharepoint Server
SharePointDomain	String	The Domain Name of the Sharepoint Server
ConnectionString	String	Additional arguments used in the connection string to connect to the Sharepoint Server(optional

8.4.11 Command Line Interface Usage

Once you have configured your property file, you must navigate to the *[LiveCycle root]*/configurationManager/bin folder.

To view a complete description of the Configuration Manager CLI commands, type: `ConfigurationManagerCLI help <command name>`.

8.4.11.1 Configure CRX CLI Usage

The Configure CRX Repository requires the following syntax:

configureCRXRepository -f <*propertyFile*>

Where:

- -f <*propertyFile*>: A property file containing the required arguments. For more information on creating a property file, see Command Line Interface property file.

8.4.11.2 Configure Content Services (deprecated) CLI Usage

The Configure Content Services operation requires the following syntax:

configureContentServices -f <propertyFile>

where:

- -f <propertyFile>: A property file containing the required arguments. For more information on creating a property file, see Command Line Interface property file.

  Note: *The Content Services is deprecated and does not appear in the list of selected components. To include Content Services in the list of selected components remove or comment out* `excludedSolutionComponents=ALC-LFS-ContentServices` *property from cli_propertyFile_template.txt file.*

8.4.11.3 Initialize LiveCycle CLI Usage

The initialize LiveCycle operation requires the following syntax:

initializeLiveCycle -f <*propertyFile*>

Where:

- -f <*propertyFile*>: A property file containing the required arguments. For more information on creating a property file, see Command Line Interface property file.

8.4.11.4 Validate LiveCycle Server CLI Usage

The Validate LiveCycle Server operation is optional and requires the following syntax:

validateLiveCycleServer -f <*propertyFile*> *-LCAdminPassword* <*password*>

Where:

- -f <*propertyFile*>: A property file containing the required arguments. For more information on creating a property file, see Command Line Interface property file.
- -LCAdminPassword <password>: Allows you to set the Admin password on the command line. If this argument is present, it will override the targetServer.adminPassword property in the property file.

8.4.11.5 Deploy LiveCycle Components CLI Usage

The Deploy LiveCycle Components operation requires the following syntax:

deployLiveCycleComponents -f <*propertyFile*> *-LCAdminPassword* <*password*>

Where:

- -f <*propertyFile*>: A property file containing the required arguments. For more information on creating a property file, see Command Line Interface property file.

- -LCAdminPassword <password>: Allows you to set the Admin password on the command line. If this argument is present, it will override the targetServer.adminPassword property in the property file.

8.4.11.6 Validate LiveCycle Component Deployment CLI Usage

The Validate LiveCycle Component Deployment operation is optional and requires the following syntax:

validateLiveCycleComponentDeployment -f <*propertyFile*> *-LCAdminPassword* <*password*>

Where:

- -f <*propertyFile*>: A property file containing the required arguments. For more information on creating a property file, see Command Line Interface property file.
- -LCAdminPassword <password>: Allows you to set the Admin password on the command line. If this argument is present, it will override the targetServer.adminPassword property in the property file.

8.4.11.7 Check system readiness for PDF Generator

The Checking system readiness for PDF Generator operation requires the following syntax:

pdfg-checkSystemReadiness

8.4.11.8 Adding administrator user for PDF Generator

The adding administrator user for PDF Generator operation requires the following syntax:

pdfg-addAdminUser -f <*propertyFile*>

Where:

- -f <*propertyFile*>: A property file containing the required arguments. For more information on creating a property file, see Command Line Interface property file.

8.4.11.9 Configure Connector for IBM Content Manager

The Configure Connector for IBM Content Manager operation is optional and requires the following syntax:

IBMCM-configurationCLI -f <propertyFile>

Where:

- -f <*propertyFile*>: A property file containing the required arguments. For more information on creating a property file, see Command Line Interface property file.

  Important: *Modify the <propertyFile> called cli_propertyFile_ecm_ibmcm_template.txt located in the [LiveCycle root]\configurationManager\bin\ directory.*

1. Restart the Application Server.
2. Start the following services from LiveCycle Administration Console
   - IBMCMAuthProviderService
   - IBMCMConnectorService

8.4.11.10 Configure Connector for IBM FileNet

The Configure Connector for IBM FileNet operation is optional and requires the following syntax:

filenet-configurationCLI -f <propertyFile>

Where:

- -f <*propertyFile*>: A property file containing the required arguments. For more information on creating a property file, see Command Line Interface property file.

  Important: *Modify the <propertyFile> called cli_propertyFile_ecm_filenet_template.txt located in the [LiveCycle root]\configurationManager\bin\ directory.*

Perform the following steps manually to complete the configuration for Connector for IBM Content Manager.

1. (**Only for FileNet 4.x**) Add the Java option -Dwasp.location=[FileNetClient root]/wsi to the Application Server startup options.
2. Restart the Application Server.
3. Start the following services from LiveCycle Administration Console
   - IBMFileNetAuthProviderService
   - IBMFileNetContentRepositoryConnector
   - IBMFileNetRepositoryProvider
   - IBMFileNetProcessEngineConnector(If configured)

8.4.11.11 Configure Connector for EMC Documentum

The Configure Connector for EMC Documentum operation is optional and requires the following syntax:

documentum-configurationCLI -f <propertyFile>

Where:

- -f <*propertyFile*>: A property file containing the required arguments. For more information on creating a property file, see Command Line Interface property file.

  Important: *Modify the <propertyFile> called cli_propertyFile_ecm_documentum_template.txt located in the [LiveCycle root]\configurationManager\bin\ directory.*

Perform the following steps manually to complete the configuration for Connector for EMC Documentum.

1. Restart the Application Server.
2. Start the following services from LiveCycle Administration Console
   - EMCDocumentumAuthProviderService
   - EMCDocumentumRepositoryProvider
   - EMCDocumentumContentRepositoryConnector

8.4.11.12 Configure Connector for Microsoft SharePoint

The Configure Connector for Microsoft SharePoint operation is optional and requires the following syntax:

sharepoint-configurationCLI -f <propertyFile>

Where:

- -f <*propertyFile*>: A property file containing the required arguments. For more information on creating a property file, see Command Line Interface property file.

  Important: *Modify the <propertyFile> called cli_propertyFile_ecm_sharepoint_template.txt located in the [LiveCycle root]\configurationManager\bin\ directory.*

8.5 Examples Usage

From the C:\Adobe\Adobe LiveCycle ES4\configurationManager\bin, type:

```
ConfigurationManagerCLI configureLiveCycle -f cli_propertyFile.txt
```

Where *cli_propertyFile.txt* is the name of the property file you created.

8.6 Configuration Manager CLI Logs

If an error occurs, you can review the CLI logs located here in the *[LiveCycle root]*\configurationManager\log folder. The log file generated will have a naming convention such as lcmCLI.0.log where the number in the filename (0) will increment when the log files are rolled over.

8.7 Next steps

If you used Configuration Manager CLI to configure and deploy LiveCycle, you can now do the following tasks:

- Verify the deployment. (See Verify the deployment.)
- Access Administration Console. (See Accessing Administration Console.)
- Configure LiveCycle modules to access LDAP. (See Configuring LDAP access.)

Chapter 9: Appendix - Configuring the Connector for Microsoft SharePoint on the SharePoint Server

The Connector for Microsoft SharePoint allows you to integrate workflows from both the LiveCycle and the SharePoint development perspectives. This module includes a LiveCycle service and a sample SharePoint feature that facilitates end-to-end connection between the two systems.

The service provides search, read, write, delete, update, and check in/out capabilities with a SharePoint repository. SharePoint users can initiate LiveCycle processes such as an approval process from within SharePoint, convert documents to Adobe PDF, and manage the rights on a file in PDF or native formats. In addition, from within the SharePoint context, you can automate running LiveCycle processes from within SharePoint workflows.

9.1 Installation and configuration

After you configured the LiveCycle installation, carry out the following steps to configure the connector on the SharePoint server.

9.1.1 System requirements for the SharePoint server

Ensure that your server that runs the SharePoint site meets the following requirements:

- Microsoft SharePoint Server 2007, 2010, or 2013
- Microsoft .NET Framework 3.5

9.1.2 Installation considerations

Keep in mind the following before you plan your installation:

- If you are using Microsoft SharePoint Server 2007, the installation process stops and restarts the Windows IIS Server when installing Connector for Microsoft SharePoint on the SharePoint server.
- Before you run the installation, ensure that none of the other sites or web applications is using services on the IIS Server. Consult your IIS Administrator before you proceed with the installation.
- (For Sharepoint server 2010 Farmed installation) The SharePoint administration service is running on the centeral adminstration server of sharepoint server Farm. (For Sharepoint server 2010 Standalone installation) The SharePoint administration service is stopped on the sharepoint server.

9.2 Installation and configuration on the SharePoint server 2007

9.2.1 Extract the web part installer

When you installed the LiveCycle server, the web part installer for SharePoint server named `Adobe LiveCycle Connector-2007.zip` was created in the *[LiveCycle root]*\plugins\sharepoint folder. Copy this file to a folder on the Windows server that hosts SharePoint, and then extract the files.

9.2.2 Edit the batch file

The folder extracted from the web part installer contains a batch file named `Install.bat`. You must update this batch file with the file and folder paths relevant to your SharePoint server.

1 Open the `Install.bat` file in a text editor.

2 Locate the following lines in the file and change them:

```
@SET GACUTILEXE="C:\Program Files\Microsoft SDKs\Windows\v6.0A\Bin\ gacutil.exe"
@SET TEMPLATEDIR="c:\Program Files\Common Files\Microsoft Shared\ web server
extensions\12\TEMPLATE"
@SET WEBAPPDIR="C:\Inetpub\wwwroot\wss\VirtualDirectories\<port>"
@SET SITEURL="http://<SharePoint Server>:<port>/SiteDirectory/<site name>/"
@SET STSADM="C:\Program Files\Common Files\Microsoft Shared\ web server
extensions\12\bin\stsadm.exe"
```

- *GACUTILEXE:* Change the path to the folder where the GAC utility is located.
- *TEMPLATEDIR:* Change the template directory path of the IIS Server on your system.
- *WEBAPPDIR:* Change the path of the WEBAPPDIR of the IIS Server on your system if it differs from the default value included in the batch file.
- *SITEURL:* Change the URL of the SharePoint site on your system on which you want to activate the LiveCycle feature.
- *STSADM*: Change the path to the folder where the STSADM utility is located.

Note: *The LiveCycle feature is installed on a web application on the SharePoint server. The LiveCycle feature will be activated only on the site that you have provided the site URL for. You can activate the LiveCycle feature for other SharePoint sites later from the Site Settings page of those sites. See SharePoint Help for more information.*

3 Save and close the file.

9.2.3 Run the batch file

Navigate to the folder where the edited batch file is present, and then run the `Install.bat` file.

Keep in mind that the SharePoint site will be unavailable for other services during the time the batch file runs.

When you run the batch file, the following occur:

- Registers the `AdobeLiveCycleConnector.dll` and `AdobeLiveCycleWorkflow.dll` files. These dynamic libraries integrate the LiveCycle features with the SharePoint server.
- Uninstalls any previously installed SharePoint connector.
- Copies the template files to the *WSS \TEMPLATE* directory.

- Copies the resource files to *WEBAPPDIR\App_GlobalResources* directory.
- Installs and activates the LiveCycle features with web server extensions.
- Closes the installer and returns the prompt.

9.2.4 Copy the Service Model configuration to the IIS Web Application folder

You must copy the SharePoint Connector-specific configuration settings to the web application home directory of the IIS Server. This adds the LiveCycle feature to the web application.

1. Navigate to the *sharepoint-webpart* folder that was created when you extracted the LiveCycle feature installer.
2. Open the `AdobeLiveCycleConnector.dll.config` file in a text editor.
3. Copy the contents between `<system.serviceModel>` and `</system.serviceModel>` tags (including both the starting and ending tags), and then close the file.
4. Navigate to the web application home directory on the IIS Service on your computer that you specified in the batch file. Typically, the folder is `C:\Inetpub\wwwroot\wss\VirtualDirectories\<port>`.
5. Create a backup copy of the `web.config` file and then open the original file in a text editor.
6. Append the contents that you copied before the `</configuration>` tag.
7. Save and close the file.

9.3 Installation and configuration on the SharePoint server 2010 and SharePoint server 2013

9.3.1 Edit Environment Variables

Append path of stsadm.exe to PATH environment variable. The default path of stsadm.exe is `C:\Program Files\Common Files\MicrosoftShared\Web Server Extensions\14\BIN`.

9.3.2 Extract the web part installer

When you installed the LiveCycle server, the web part installer for SharePoint server files named `Adobe LiveCycle Connector-2010.zip` and `Adobe LiveCycle Connector-2013.zip` are created in the [LiveCycle root]\plugins\sharepoint folder.

- If you are using Microsoft SharePoint 2010, copy file `Adobe LiveCycle Connector-2010.zip` to a folder on the Windows server that hosts SharePoint, and then extract the copied file.
- If you are using Microsoft SharePoint 2013, copy file `Adobe LiveCycle Connector-2013.zip` to a folder on the Windows server that hosts SharePoint, and then extract the copied file.

9.3.3 Install and Activate Connector

1. If your old LiveCycle setup had SharePoint Connector installed, perform the following commands in the listed order to uninstall the old SharePoint Connector:

```
install.bat -uninstall
install.bat -retract
install.bat -delete.
```

2 (Optional)Select options for SharePoint Server Context menu before installing connector. See "9.3.4 Enable/Disable features" on page 84 for detailed steps.

3 Run following commands in the listed order to install Connector for SharePoint Server. Ensure that you run `stsadm - o enumsolutions` after each command to verify that the changes have been the propagated to all the servers.

Run `stsadm - o enumsolutions` repeatedly, until the resultant xml contains `<state>pending</state>` tag.

```
install.bat -create
install.bat -add
install.bat -deploy
install.bat -install
```

Note: *For the install.bat -deploy command, run stsadm - o enumsolutions repeatedly, until the resultant xml contains <LastOperationResult>DeploymentSucceeded</LastOperationResult> tag.*

4 Activate the connector from SharePoint Web Application. To activate the connector:

a Open SharePoint Web Application in a browser.

b Click **Site Settings**.

c Click **Site Collection Features.**

d Click Activate for **Adobe LiveCycle Connector** and **Adobe LiveCycle Workflow** feature.

9.3.4 Enable/Disable features

You can change options of context menu and disable other features on SharePoint Sites. For the Sharepoint Connector installed with default set of options, following options are enabled on SharePoint Server:

- Convert to Adobe PDF
- Enable for commenting by adobe reader.
- Secure with Adobe Policy.
- Invoke Adobe LiveCycle Processes

You may make changes to `Elements.xml` file to change above options and to enable or disable another features. To make changes to `Elements.xml`

1 Navigate to the folder containing extracted contents of `Adobe LiveCycle Connector-2010.zip` or `Adobe LiveCycle Connector-2013.zip` file.

2 Take backup of Elements.xmlfile. The default location of `Elements.xml` is `< Directory containing Extracted Adobe LiveCycle Connector-2010/2013.zip File >\TEMPLATE\FEATURES\LiveCycle\Elements.xml`

3 Open the `Elements.xml` file in a text editor.

4 Delete or comment the CustomAction elements of features that you want to disable .

Docuent Server feature	CustomAction element ID	Description
Reader Extensions	LiveCycle.ApplyReaderExtensions	Enables Reader Extensions on PDF documents.
Rights Management	LiveCycle.RightsManagement.ApplyPolicyToPdf	Rights-protect PDF documents

	LiveCycle.RightsManagement.ApplyPolicyToDoc	Rights-protect Microsoft Word documents
	LiveCycle.RightsManagement.ApplyPolicyToXls	Rights-protect Microsoft Excel documents
	LiveCycle.RightsManagement.ApplyPolicyToPpt	Rights-protect Microsoft PowerPoint doments
	LiveCycle.RightsManagement.ApplyPolicyToDocx	Rights-protect Microsoft Word documents
	LiveCycle.RightsManagement.ApplyPolicyToXlsx	Rights-protect Microsoft Excel documents
	LiveCycle.RightsManagement.ApplyPolicyToPptx	Rights-protect Microsoft PowerPoint doments
	LiveCycle.RightsManagement.ApplyPolicyToDwg	Rights-protect Microsoft Excel documents
	LiveCycle.RightsManagement.ApplyPolicyToDxf	Rights-protect AutoCAD documents
	LiveCycle.RightsManagement.ApplyPolicyToDwf	Rights-protect AutoCAD documents
PDF Generator	LiveCycle.GeneratePDFFromPdf	Convert a PDF created from an image to a text-based PDF if Standard OCR was used as the file type in Site Settings.
	LiveCycle.GeneratePDFFromDoc	Generate PDF from Microsoft Word documents
	LiveCycle.GeneratePDFFromPs	Generate PDF from PostScript files
	LiveCycle.GeneratePDFFromEps	Generate PDF from EPS documents
	LiveCycle.GeneratePDFFromPrn	Generate PDF from PRN files
	LiveCycle.GeneratePDFFromDocx	Generate PDF from Microsoft Word 2007 documents
	LiveCycle.GeneratePDFFromPpt	Generate PDF from Microsoft PowerPoint documents
	LiveCycle.GeneratePDFFromPptx	Generate PDF from Microsoft PowerPoint documents
	LiveCycle.GeneratePDFFromXls	Generate PDF from Microsoft Excel documents
	LiveCycle.GeneratePDFFromXlsx	Generate PDF from Microsoft Excel documents
	LiveCycle.GeneratePDFFromBmp	Generate PDF from BMP files
	LiveCycle.GeneratePDFFromGif	Generate PDF from GIF files
	LiveCycle.GeneratePDFFromJpeg	Generate PDF from JPEG images
	LiveCycle.GeneratePDFFromJpg	Generate PDF from JPG images
	LiveCycle.GeneratePDFFromTiff	Generate PDF from TIFF images
	LiveCycle.GeneratePDFFromTif	Generate PDF from TIF images

	LiveCycle.GeneratePDFFromPng	Generate PDF from PNG images
	LiveCycle.GeneratePDFFromJpf	Generate PDF from JPF images
	LiveCycle.GeneratePDFFromJpx	Generate PDF from JPX images
	LiveCycle.GeneratePDFFromJp2	Generate PDF from JPEG 2000 images
	LiveCycle.GeneratePDFFromJ2k	Generate PDF from JPEG 2000 images
	LiveCycle.GeneratePDFFromJ2c	Generate PDF from JPEG 2000 images
	LiveCycle.GeneratePDFFromJpc	Generate PDF from JPEG 2000 images
	LiveCycle.GeneratePDFFromHtm	Generate PDF from HTM documents
	LiveCycle.GeneratePDFFromHtml	Generate PDF from HTML documents
	LiveCycle.GeneratePDFFromSwf	Generate PDF from SWF files
	LiveCycle.GeneratePDFFromFlv	Generate PDF from Flash video files
	LiveCycle.GeneratePDFFromTxt	Generate PDF from text files
	LiveCycle.GeneratePDFFromRtf	Generate PDF from Rich Text Format files
	LiveCycle.GeneratePDFFromMpp	Generate PDF from Microsoft Project files
	LiveCycle.GeneratePDFFromPub	Generate PDF from Microsoft Publisher documents
Invoke LiveCycle process	LiveCycle.InvokeGenericLiveCycleProcessOnALL	Invoke LiveCycle Process
Adobe Forms Library	AdobeFormsLibrary	Set up SharePoint as the repository for forms data.Remove the CustomAction, ListTemplate and ListInstance elements.
LiveCycle User Tasks	LiveCycleUserTasks	Lists the user tasks.Remove the ListTemplate element.
LiveCycle Group Tasks	LiveCycleGroupTasks	Lists the group tasks.Remove the ListTemplate element.

5 Save and close `Elements.xml`

9.3.5 Uninstalling Connector for Microsoft SharePoint Server 2010 and Microsoft SharePoint Server 2013

1 Deactivate SharePoint Connector from Shrepoint Web Application. To deactivate SharePoint Connector

a Open SharePoint Web Application in a browser.

b Click **Site Settings**.

c Click **Site Collection Features.**

d Click Deactivate for **Adobe LiveCycle Connector** and **Adobe LiveCycle Workflow** Features

2 On the command prompt, run the following commands in the given order. Ensure that you run `stsadm - o enumsolutions` after each command to verify that the changes have been the propagated to all the servers. Run `stsadm - o enumsolutions` repeatedly, until the resultant xml contains `<state>pending</state>` tag.

```
Install.bat -uninstall
Install.bat -retract
Install.bat -delete
```

Note: *For the Install.bat -retract command, run stsadm - o enumsolutions repeatedly, until the resultant xml contains <LastOperationResult>RetractionSucceeded</LastOperationResult> tag.*